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U-007-407 .11

COMMENTS - OU5 FS/PP

01/31/95

OEPA DOE-FN
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COMMENTS

OhioEPA
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George V. Voinovich
Governor

January 31, 1995

RE: DOE FEMP
MSL #531-0297
HAMILTON COUNTY
COMMENTS -
OU5 FS/PP

Mr. Jack Craig
Project Manager
U.S. DOE FEMP
P.O. Box 398705
Cincinnati, OH 45329-8705

Dear Mr. Craig:

This letter provides as an attachment Ohio EPA's comments on DOE's Operable Unit 5 Feasibility Study/ Proposed Plan report submitted to Ohio EPA on November 16, 1994. Ohio EPA is available to meet with DOE in order to develop a timely response and incorporation of these comments into the revised document.

If you should have any questions, please contact Tom Ontko or me.

Sincerely,

Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

cc w/att: Jim Saric U.S. EPA
Terry Hagen, FERMCO
Robert Owen, ODH
Mike Proffitt, DDAGW
Jean Michaels, PRC
Manager TPSSU, DERR/CO
Lisa August, GeoTrans

OHIO EPA COMMENTS ON THE OPERABLE UNIT 5 FS/PP

GENERAL COMMENTS

1) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: Line #: Code: M
Original Comment #:
Comment: Ohio EPA believes DOE has failed to consider a viable technology for addressing contaminated soils from Operable Unit 5 as well as other OUs. The technology referred to as the "Brickmaker" is currently being used at the DOE Mound site for radionuclide contaminated soils. The technology uses standard brick making industry equipment with modifications. Use of this technology results in a highly compacted soil brick. Test runs at Mound have shown a 20% volume reduction for soils being disposed of in metal boxes. Based upon conversations will Mound staff (Bill Johanan), it is believed a 40-45% reduction could be achieved for an application in an on-site disposal cell without containers. This is based upon test data showing a change in density from 80-95 lbs per cubic foot (post excavation) to 130lbs per cubic foot following treatment.

The use of this technology for on-site disposal of soils has a number of benefits. A few of these are: 1) less volume means a smaller disposal cell and thus more land for reuse; 2) a smaller active face to the cell since waste wouldn't be compacted by heavy machinery; 3) significant reduction in the potential for airborne emissions due to brick waste form rather than landfill style soil compaction; 4) treatment can be completed within an enclosed building eliminating fugitive emissions; 5) reduced potential for erosion of contaminated soil during placement in the cell; 6) waste form would be less permeable than standard landfill compaction; 7) costs of the disposal cell would decline as size declines.

Use of this technology would appear to be practical and not require a large additional expense. The technology will address citizen concerns with fugitive emissions from landfill style disposal. Employing this technology will show a commitment by DOE to implement treatment where feasible. This treatment would meet the NCP's statutory preference for treatment when practicable.

In general, the preferred alternatives presented for the OUs to date only select treatment for waste being disposed of off-site. Incorporation of the "Brickmaker" technology into on-site disposal alternatives would address this imbalance in the use of treatment technologies. Ohio EPA believes DOE must consider implementation of this technology for the on-site disposal alternatives.
Response:
Action:

2) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: Line #: Code: C
Original Comment #:
Comment: The Feasibility Study and probably the Proposed Plan should include a table which provides the PRLs along with the PRLs from OU1 and OU2 as well as the levels within the final OU4 ROD.

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This will help reviewers see the progression of cleanup levels and answer questions with regard to lowering other OU's levels as described in their respective draft and final RODs.
Response:
Action:

3) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: M
Original Comment #:
Comment: Based upon this reviewers evaluation of the non-modelling portions of the document, it appears the groundwater remediation and soil remediation analyses were both evaluated to protect the GMA to the MCL. The question arises that if the GMA is remediated to 20 ppb and soils were remediated to protect the GMA to 20ppb is there an additive effect resulting in the GMA concentration being between 20 and 40ppb? DOE should revise the document and the Proposed Plan to explain this issue to the reviewer and the public.
Response:
Action:

4) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: Line #: Code: M
Original Comment #:
Comment: Engineering geology literature is full of examples of failed geotechnical projects. A key to risk minimization is the ability to (1) monitor containment system performance and (2) remedy system failure. We believe that the disposal cell (and associated remedies) can be reasonably monitored (e.g., by leachate monitoring) and remedied (e.g., by pumping) if necessary.
Response:
Action:

5) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: Line #: Code: M
Original Comment #:
Comment: Why was a relatively low-cost hydraulic containment with limited excavation work (e.g., cover surface soils and excavate hot spots) not developed for the purpose of comparing alternatives? If aquifer restoration is not possible, the pump-and-treat remedy may revert to long-term hydraulic containment. Such long term pumping may require long-term treatment. If so, the major reason noted to not consider hydraulic containment (that extended treatment plant operation will be expensive) is invalid because such cost will be incurred anyway. Were the preliminary calculations set up to diminish savings that would result from long-term containment pumping with much less earth work? Are the long-term treatment costs for groundwater pumping necessarily so high?

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Response:
Action:

6)Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: Line #: Code: C
Original Comment #:
Comment: The screening of certain treatment technologies for soils was performed without citing references and based upon a large volume of low level radioactive waste. Several technologies such as soil washing, solidification and vitrification, for example, were retained as support technologies without criteria for their use. These support technologies can become a viable treatment alternative in the reduction of mobility and volume of contaminants during hot spot remediation. Hot spot remediation and the associated treatment technologies should have been included as alternatives during the screening process.
Response:
Action:

SPECIFIC COMMENTS

7) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Executive Summary Pg #: ES-1 Line #: 2 Code: c
Original Comment #:
Comment: Please modify this sentence to read " ...(FEMP)s goal is a safe, least-cost..." or" FEMP has been assigned the task of..." . As written, this sentence appears to take credit for achieving results before the job is finished.
Response:
Action:

8) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Executive Summary Pg #: ES-6 Line #: 3-6 Code: c
Original Comment #:
Comment: OEPA believes this sentence is too brief and that it oversimplifies the ILCR goals. Please insert language to the effect that the NCP(40CFR§300.430(e)(2)(i)(A)(2)) targets an ILCR of 10^{-6} as an initial point of departure.
Response:
Action:

9) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Executive Summary Pg #: ES-9 Line #: 13-17 Code: c
Original Comment #:
Comment: Please elaborate on the rather vague reference to the " such time as the need for future

action" in regards to the mixed plume. OEPA believes that nothing substantial will be gained by delaying actions on serious negotiations with the PRRS.
Response:
Action:

10) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Ex.Summary Pg. #: ES-9 Line #: 10 Code: C
Original Comment #:
Comment: DOE's use of the term "Maximum Concentration Level (MCL)" conflicts with the use of an already well-established term "Maximum Contaminant Level (MCL)". Maximum Contaminant Levels are a specific set of water standards established by EPA. It is not clear whether DOE is simply mistaken when referring to the name given to the EPA standards or is referring to something altogether different.
Response:
Action:

11) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Executive Summary Pg #: ES-14 Line #: Code: c
Original Comment #:
Comment: This paragraph makes no reference to a waste acceptance criteria being in place for contaminated media proposed for disposal in the on-site cell. Please make a reference to such in the revised text.
Response:
Action:

12) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Executive Summary Pg #: ES-19 Line #: 12 Code: c
Original Comment #:
Comment: Please rephrase this sentence. As written it can be inferred that all proposed federal standards for the next 1000 years will be met.
Response:
Action:

13) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.0 Pg #: 1-4 Line #: 4-5 Code: C
Original Comment #:
Comment: The sentence should be revised to reflect the current status of the OU4 ROD (finalized and signed).
Response:
Action:

14) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 1.3.1 Pg. #: 1-10 Line #: 25 Code: C
Original Comment #:
Comment: The text should state what the Hazard Ranking Score for the Fernald site was.
Response:
Action:

15) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3.3 Pg #: 1-14 Line #: 21-22 Code: C
Original Comment #:
Comment: The portion of this sentence addressing the OU2 "engineering containment systems" should be revised to reflect the preferred alternative detailed in the OU2 Proposed Plan. The preferred alternative is use of an on-property disposal cell rather than "engineering containment systems" discussed here.
Response:
Action:

16) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4.2.1 Pg #: 1-22 Line #: 12-14 Code: C
Original Comment #:
Comment: The sentence should be revised to reflect the fact that listed hazardous wastes are expected to be encountered in addition to characteristic hazardous wastes.
Response:
Action:

17) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 1-1 Pg #: 1-28&29 Line #: Code: c
Original Comment #:
Comment: DOE should review the basis for listing categories to ensure they are consistent with the current listing proposals (e.g., Pit 5 as listed waste, biosurge lagoon as unit, etc.).
Response:
Action:

18) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1 Pg #: 1-47 Line #: 19,20 Code: c
Original Comment #:
Comment: OEPA does not think it is appropriate to compare EPA indoor air standards with levels observed in the out-doors . It is more appropriate to cite 40 CFR part 192.02(b)2 which specifies that the average annual increase of radon-222 in air at or above any location outside the disposal site should

not exceed 0.5 pCi/L. Please compare the observed levels to this standard.
Response:
Action:

19) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1 Pg #: 47 Line #: 23 Code: e
Original Comment #:
Comment: Is the reference here to "milleram" a typo?
Response:
Action:

20) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1 Pg #: 1-47 Line #: 26,27 Code: c
Original Comment #:
Comment: OEPA does not believe the reference here to background dose is an appropriate comparison. Please delete this sentence.
Response:
Action:

21) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 1.5.3 Pg.#: 1-50 Line #: 35 Code: C
Original Comment #
Comment: Sum of $3.6x10^{-2}$ and $1.7x10^{-2}$ is $5.\underline{3}x10^{-2}$. Is this due to rounding?
Response:
Action:

22) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 1.5.4 Pg.#: 1-53 Line #: 19-21 Code: E
Original Comment #
Comment: Some words seem to be missing in this sentence.
Response:
Action:

23) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1 Pg #: 2-3 Line #: 29 Code: C
Original Comment #: The text should provide additional clarification as to the meaning of "proprietary institutional controls." A more appropriate statement might be "land use control through federal ownership."
Response:

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Action:

24) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 2-5 Line #: 31 Code: c
Original Comment #:
Comment: OEPA believes that this sentence is too brief and that it over simplifies the ILCR goals. Please insert language to the effect that the NCP (40CFR part 300.430(e)(2)(i)(A)(2)) targets an ILCR of 10^{-6} as a point of departure.
Response:
Action:

25) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2 Pg #: 2-8 Line #: Code: C
Original Comment #:
Comment: The text within this section including the discussion of the four land use objectives suggests a predisposition to on-property disposal. The text only discusses on-property disposal and fails to consider off-property disposal of materials exceeding PRLs within any of the land use objectives. Three of the use objectives clearly incorporate the on-property disposal component.
Response:
Action:

26) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2.1 Pg #: 2-12 Line #: 8-10 Code: C
Original Comment #:
Comment: A long-term surveillance and monitoring program will be required not only for the disposal system but also for all other areas of the property where contaminated soils are left in place. This monitoring system is necessary to ensure that land use controls are being maintained and that contaminants left in place are not migrating such that they exceed the remedial action objectives.
Response:
Action:

27) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2.2 Pg #: 2-16 Line #: 32-33 Code: C
Original Comment #:
Comment: Ohio EPA disagrees with DOE's assertion that hunting would not occur at the site, due to the size of the property and the presence of signs. Ohio EPA's experience with warning signs at sites significantly smaller than FEMP suggests hunting will occur under the expanded trespasser scenario.
Response:

Action:

28) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.6 Pg #: 2-29 Line #: 25-36 Code: c
Original Comment #:
Comment: DOE should have developed a CPRG for soils that would protect the GMA outside the FEMP property to a $1X10^{-6}$ ILCR for land use options 3 and 4.
Response:
Action:

29) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.7.2 Pg #: 2-32 Line #: Code: c
Original Comment #:
Comment: This section should include a discussion of an additional TBC, Ohio EPA's VOC discharge policy. Policy #DSW-DERR 0100.027.
Response:
Action:

30) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 2-33 Line #: Table 2-6 Code: c
Original Comment #:
Comment: The State of Ohio has revised its drinking water standards since 1991. We have included a copy of the newest regulations for DOE's convenience.
Response:
Action:

31) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 2-6 Pg #: 2-33 Line #: Code: c
Original Comment #:
Comment: a) The table should be revised to show that the total concentration of all trihalomethanes may not exceed 80ug/l. This should be noted for bromodichloromethane and chloroform.
b) The lead MCL is not listed as "Tentative" as suggest by the footnotes in this table. The lead MCL is final (F) and is a treatment technique (TT) standard.
c) Copper has an action level, such as lead, for the MCL. The level is the same as the MCLG, 1.3mg/l.
Response:
Action:

32) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 2-36 Line #: Table 2-7 Code: c

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Original Comment #:
Comment: Two of the standards listed in this table have been incorrectly transcribed. Ohio has no maximum concentration limit for dieldrin. The listed concentration should appear in the "30-day maximum" column. The value for fluoride in the table is 2.0 not the 2000 listed.
Response:
Action:

33) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.7.5 Pg #: 2-37 Line #: Code: c
Original Comment #:
Comment: An additional ARAR which should be discussed is OAC 3745.31-05(A)(3) which requires all new source employ Best Available Technology (BAT) for minimizing air emissions.
Response:
Action:

34) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.7.8 Pg #: 2-43 Line #: 33-35 Code: e
Original Comment #:
Comment: The final sentence of this paragraph is somewhat confusing. "Ability" may need to be revised to state "inability" or the sentence could be rewritten.
Response:
Action:

35) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 2.13 Pg. #: 2-75 Line #: Code: C
Original Comment #:
Comment: The groundwater PRLs should be ppb not ppm.
Response:
Action:

36) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.13 Pg #: 2-76 Line #: 1-5 Code: M
Original Comment #:
Comment: Ohio EPA believes it is inappropriate for DOE to determine that rounding to the nearest 5ppm is appropriate. Since DOE believes rounding is more consistent with numbers "credibly achieved", Ohio EPA believes the numbers should be rounded down to the nearest 5ppm. In addition, DOE has failed to even implement its proposed rounding scheme appropriately (44ppm has been rounded to 50 ppm rather than 45ppm).
Response:
Action:

37) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 79 Line #: 11 Code: c
Original Comment #:
Comment: The OEPA has several questions about the details of the solid block model. Since the model is only 30.5 feet deep, is all data collected at depths greater than this ignored by the model? OEPA requests more detail on the vertical distribution of uranium and how limits were placed on the vertical distribution of uranium in soil for areas both inside and outside the production area..
Response:
Action:

38) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 2 Pg. #: 2-81 Line #: 15-16 Code: C
Original Comment #:
Comment: If no sampling points were found within the search ellipsoid, no estimate of concentration was made for the block. Does this ultimately imply that no uranium exists in the search area or that no samples were collected in the search area? The concern is that a lack of data is interpreted as a lack of contamination. Please clarify.
Response:
Action:

39) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 2.13.1.1 Pg #: 2-81 Line #: 25-30 Code:
Original Comment #:
Comment: The 16 foot vertical and 275 foot horizontal search seems large. Is it possible to reduce this in areas of the site which have large quantities of spatial data, such as is done through grid discritization for ground water modeling efforts?
Response:
Action:

40) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 2 Pg. #: 2-81 Line #: 25-36 Code: C
Original Comment #:
Comment: The text states that limits were placed upon the depth of contamination for all blocks within the FEMP. Why were limits placed on blocks which had sufficient points for Kriging over the 16 feet depth? Please clarify. If measured sampling results exist why does a manual limit need to be set? What difference results when the limit is set manually versus interpreted by the Kriging program?
Response:
Action:

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41) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 2.13.1.1 Pg. #:2-81 Line #: 30 Code: C
Original Comment #:
Comment: Please discuss the dimensionality of the kriging effort. Please describe more fully how the interpolation was bounded and provide simple examples to aid the explanation.
Response:
Action:

42) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 2.13.1.1 Pg #: 2-82 Line #: 14-18 Code:
Original Comment #:
Comment: The document needs to have the reference to the report or study where DOE technically justifies these subdivided zones of leachability.
Response:
Action:

43) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 87 Line #: 28 Code: c
Original Comment #:
Comment: The plow depth for most crops in this part of the Ohio is typically 7 inches. The volume calculations for those off-property areas that have been farmed would be more realistic if the assumed removal depth were revised from the assumed 6 inches.
Response:
Action:

44)Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 2 Pg. #: 2-91 Line #: Figure 2-8 Code: C
Original Comment #:
Comment: The drainage in the north-east corner of the figure do not extend back to the source areas. Please clarify why the drainageways in the north-east corner of Figure 2-8 do not extend back towards the site.
Response:
Action:

45) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 2 Pg. #: 2-93 Line #: Table 2-21 Code: C
Original Comment #:
Comment: Table 2-21 lists an on-property soil disposal volume of 1,797,000 cu. yds. for OU-5, land use objective 3, case 7. Table 7-3 (pg. 7-7) lists 1,750,000 cu. yds. for OU-5, land use objective 3, case 7. Please clarify.

Response:
Action:

46) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 2-93 Line #: Table 2-21 Code: c
Original Comment #:
Comment: Footnote "b" refers to an estimated 175,000 cubic yards of gravel from the former Production Area. It seems this gravel would be a very strong candidate for evaluation for soil washing. Has any such evaluation been performed?
Response:
Action:

47) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 95 Line #: 27,33 Code: c
Original Comment #:
Comment: Because the plow depth is typically 7 inches, these volume estimates should be revised upwards to incorporate the additional excavation depth that will need to be removed to account for this mixing
Response:
Action:

48) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Case Figures Pg #: 96? Line #: Code: c
Original Comment #:
Comment: The blocked shading presents some difficulty in determining areas considered and not considered. Of particular interest to the reviewer is what the gray shaded block at coordinates 477500 X1382300 and what are the gray shaded blocks within the production area representing. Please provide some clarification.
Response:
Action:

49) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 2 Pg. #: 2-107 Line #: 19-21 Code: C
Original Comment #:
Comment: The text implies that surface water contamination is a short-term problem which will diminish over time. Because the anticipated duration required to achieve the remedial objectives for soils is estimated at 22 years, surface water would likely remain a concern for some time. Based on the high concentrations of uranium currently detected in surface water (0.3 to 3.5 ppm, see Table 2-22) and the 22 year time frame, could surface water act as a receptor? At a minimum have these considerations been accounted for?

Response:
Action:

50) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 3.2.2 Pg. #: 3-6 Line #: Code: C
Original Comment #:
Comment: Table 3-1 screens out single-layer caps for containment. The same logic for screening out single-layer caps or covers should also be applied to consolidation. Why then were earthen covers developed as alternatives in Section 4? Please clarify. This same comment applies to Table 3-3.
Response:
Action:

51) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 3.3.3 Pg. #: 3-13 Line #: Code: C
Original Comment #:
Comment: Channel relocation and modifications were screened out (See Table 3-3) because on-site streams are ephemeral. This is not adequate justification. Existing channels convey stormwater and should be incorporated into a site-wide drainage control plan using existing and improved channels for both short-term and long-term runoff control. Dikes and berms are short-term solutions to employ during remediation followed by a long-term drainage design incorporating natural features.
Response:
Action:

52) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: Table 3-7 Pg #: 3-30 Line #: Removal General Response Action Code:
Original Comment #:
Comment: Why not consider horizontal extraction wells?
Response:
Action:

53) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.0 Pg. #: 4-2 Line #: 36 Code: E
Original Comment #:
Comment: "Principal threat" is discussed in Section 4.1.6.1, not in Section 4.1.7.1 as stated. Please correct.
Response:
Action:

54) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 10 Line #: Table 4-1 Code: c
Original Comment #:
Comment: The terms "total uranium -soluble" and "total uranium-insoluble" are not defined in this table. It would be helpful if an explanatory note were inserted to distinguish between the two.
Response:
Action:

55) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.1.4 Pg. #: 4-13 Line #: 4 Code: C
Original Comment #:
Comment: DOE states that the "incremental soil volume" consists of portions of the perched zones that are high yielding, do not exceed PRLs, and are above drinking water standards. In the discussion following, however, the same volume of soil is said to include "unaffected" areas. Please clarify. Also note whether the incremental soil volume is the same for all four land use scenarios.
Response:
Action:

56) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.1.5.2 Pg #: 4-20 Line #: 21 Code:
Original Comment #:
Comment: Change "before to discharge" to "before discharge".
Response:
Action:

57) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.1.5.2 Pg. #: 4-20 Line #: 28-31 Code: C
Original Comment #:
Comment: The TI waiver may result in the pump-and-treat objectives being switched to containment from restoration rather than allowing the cessation of pumping.
Response:
Action:

58) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-23 Line #: 14 Code: c
Original Comment #:
Comment: Please add a commitment here that before DOE concludes that asymptotic pumping conditions have been reached, more aggressive recovery methods (such as surge pumping, reinjection, etc.) are implemented first.

Response:
Action:

59) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-23 Line #: 36 Code: c
Original Comment #:
Comment: Ohio EPA does not concur that seeking a TI waiver is justified because a COC can not be remediated to below its MCL within the uranium-based remediation time frame. It is Ohio EPA's position that DOE must remediate damage done to this valuable resource.
Response:
Action:

60) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.1.5.3 Pg. #: 4-24 Line #: 1-2 Code: C
Original Comment #:
Comment: How do the simulations indicate that asymptotic behavior of contaminant concentrations may be realized?
Response:
Action:

61) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.1.6 Pg. #: 4-26 Line #: 24 Code: C
Original Comment #:
Comment: The question is posed whether an evaluation of isopleth maps for the various COCs will show that the risk footprints are contained within the uranium footprint (as is the case for the 10-6 residential farmer). The DOE goes on to state that volumes and footprints were adjusted, but does not answer the original question. Does the uranium footprint control for all of the risk cases? Please clarify the extent of the deviation.
Response:
Action:

62) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-27 Line #: 5 thru 37 Code: c
Original Comment #:
Comment: Ohio EPA agrees with DOEs contention that the wastes in OU1, OU4, and the inventoried process residuals collectively constitute the principal threat materials on site. Ohio EPA is not in agreement with the implication that the remaining materials represent a secondary threat and that engineering and/or institutional controls are adequate to protect the environment. Ohio EPA believes that these high volume, low toxicity wastes do in fact represent a significant long-term threat to the Great Miami Aquifer. We further assert that treatment to reduce the mobility and volume of these wastes is in

fact not impracticable. We also assert that regardless of the engineering controls implemented, the existence of a sole-source aquifer precludes the placement of even a solid waste landfill in this location. OEPA believes that the use of additives in either the construction of the liner or during the placement of wastes should be evaluated. Technology to reduce the soil volumes in excess of 30% also exists. The use of this "brickmaking" technology also would provide a way to incorporate such additives to the soil matrix.
Response:
Action:

63) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-28 Line #: 31-35 Code: c
Original Comment #:
Comment: Please emphasize here that neglecting the environmental media associated with the other HWMUs is for volume estimating purposes only.
Response:
Action:

64) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.1.6 Pg. #: 4-28 Line #: 37 Code: C
Original Comment #:
Comment: The assumption that 10 percent of the respective footprint beneath each of the 15 HWMUs has been affected by contamination seems arbitrary. The coincident depth for uranium excavation also seems unrelated. Please elaborate on these assumptions.
Response:
Action:

65) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-2 Pg #: 4-29 Line #: Code: c
Original Comment #:
Comment: A) Based upon activities associated with the Pilot Plant Sump Removal Act, the reviewer understood that all of the piping system under the Pilot Plant was now a part of this HWMU. This was based upon the fact that the sump was still connected to the existing piping system prior to the removal action.
B)Please add Unit Number 40 Biodenitrification Surge Lagoon and Unit Number 51 Experimental Treatment Facility to this list.
Response:
Action:

66) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-5 Pg #: 4-33 Line #: Code: c

Original Comment #:
Comment: See previous comment on Table 4-2. Include whole Pilot Plant foundation into the volume calculations.
Response:
Action:

67) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.1.6.2.2 Pg #: 4-38 Line #: 29-30 Code: c
Original Comment #:
Comment: Since WACs are currently a concentration based limit, how will cement stabilization result in meeting the WAC? The total mass of contaminant will not change and the only change in concentration would be based upon dilution by cement additives.
Response:
Action:

68) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.1.6 Pg. #: 4-40 Line #: Code: C
Original Comment #:
Comment: Figure 4-5 indicates that waste which does not meet WAC for radiological constituents is sent off-site for treatment of RCRA wastes. Those RCRA wastes that are not listed are sent to a subtitle D facility. This final disposition following treatment does not address the fact that the materials contain radiological constituents that cannot be placed in a Subtitle D facility.
Response:
Action:

69) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 41 Line #: 33 Code: c
Original Comment #:
Comment: It appears that all soils with organic vapors detectable with field screening instruments are destined for treatment or off-site disposal. There is expected to be a large middle ground between the field analytical detection limit and the concentration that is deleterious to the cell liner. Please clarify in the text the disposition of materials in this middle ground.
Response:
Action:

70) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 42 Line #: 28 Code: c
Original Comment #:
Comment: Please add clarifying language here to the effect that RCRA constituents detected under the

"listed RCRA waste" units will be remediated to the analytical detection limits.
Response:
Action:

71) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 44 Line #: 21 Code: c
Original Comment #:
Comment: Please make an addition to this bullet which provides for the possible re-injection of treated ground water.
Response:
Action:

72) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.1.8 Pg #: 4-45 Line #: 14-17 & 23-27 Code: c
Original Comment #:
Comment: Ohio EPA expects that any mitigative measures required for wetlands or threatened and endangered species will be clearly defined in the RD work plan and detailed within remedial design.
Response:
Action:

73) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 61 Line #: 31 Code: c
Original Comment #:
Comment: Please elaborate on how the verification sampling will focus on the mobility of contaminants.
Response:
Action:

74) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 64 Line #: 9-11,28,29,42,43 Code: c
Original Comment #:
Comment: Treatment residuals from surface water, waste water, and the GMA all go off site but disposition of treatment residuals from perched ground water is dependent on meeting on-site WACs. Please justify/clarify these differences or alternatively revise this section to be more logically consistent.
Response:
Action:

75) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 65 Line #: 38 Code: c
Original Comment #:

Comment: Please delete this assumption and evaluate treatment options for these soils.
Response:
Action:

76) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.3.3 Pg. #: 4-67 Line #: Code: C
Original Comment #:
Comment: Does the excavated volume of soil shown in Table 4-11 define total contaminated soil in bank cubic yards (in-place cubic yards)? Does the volume include overburden to gain access to the contaminated soils?
Response:
Action:

77) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 72 Line #: 17 Code: c
Original Comment #:
Comment: Please elaborate on how the soil verification sampling would focus on the mobility of contaminants.
Response:
Action:

78) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.3.4 Pg. #: 4-72 Line #: 27 Code: C
Original Comment #:
Comment: Please explain why soils containing hazardous waste exceeding LDRs are treated and disposed off-site (rather than on-site). This is not consistent with Figure 4-5.
Response:
Action:

79) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 74,75 Line #: 43,16,30 Code: c
Original Comment #:
Comment: As in a similar comment on the "A" alternatives, please clarify/justify the on- and off-site disposition of waste water treatment residuals.
Response:
Action:

80) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 76 Line #: 26 Code: c
Original Comment #:

Comment: Please delete this assumption and evaluate these soils for treatment to reduce toxicity, mobility and volume as is preferred in the NCP.
Response:
Action:

81) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.3.5 Pg. #: 4-81 Line #: Code: C
Original Comment #:
Comment: The Total Project cost shown for Case 8 appears to be off by $10 Billion.
Response:
Action:

82) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.3.4 Pg. #: 4-84 Line #: 40 Code: C
Original Comment #:
Comment: The use of single-layer caps (under containment) were screened out in Section 3.0, Table 3-1. Why then are the "C" alternatives, which provide earthen covers even more permeable than single-liner caps, being considered in Section 4?
Response:
Action:

83) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 85,86 Line #: 25,43,8 Code: c
Original Comment #:
Comment: As in a similar comment in the "A" and "B" alternatives, please clarify/justify the on-and-offsite disposition of waste water treatment residuals.
Response:
Action:

84) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 87 Line #: 1 Code: c
Original Comment #:
Comment: See previous comments. Please delete this sentence and evaluate these soils for treatment to reduce toxicity, mobility, and volume as preferred in the NCP.
Response:
Action:

85) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 87 Line #: 5 Code: c
Original Comment #:

Comment: Does the use of the term "indigenous" refer to grasses before or after the introduction of agriculture? It is our understanding that native grasses have been almost completely replaced by exotic species.
Response:
Action:

86) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 101 Line #: 3 Code: c
Original Comment #:
Comment: Please change this sentence to allow for investigating treatment options for all soil destined for the on-site disposal cell.
Response:
Action:

87) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4.6 Pg #: 4-110 Line #: 14-23 Code: M
Original Comment #:
Comment: Ohio EPA does not concur with DOE conclusion that an ARAR waiver would not be required for the consolidated soil in the "C" alternative. These soils would constitute a solid waste and would require a waiver. Ohio EPA disagrees with DOE's interpretation of the Closure Plan Guidance concerning the implementation of risk assessment for use under this guidance.
Response:
Action:

88) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 5-3 Pg #: 5-7 Line #: Code: c
Original Comment #:
Comment: Table 5-3 states that consolidation of soils will not occur for remedial alternatives 1,2A,3A, 4A. Yet, section 5.2.2.3, line #12 states that soils will be consolidated an placed within an on-site disposal cell. Please modify the text accordingly.
Response:
Action:

89) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.2 Pg. #: 5-20 Line #: 28 Code: M
Original Comment #:
Comment: The discussion on mixed waste is inconsistent with previous waste handling strategies (refer to Figure 4-5). The discussion indicates that waste with listed constituents will be treated to meet LDRs, and shipped off-site to a subtitle C mixed waste disposal site. Are radiological materials present at levels greater than on-site WACs? If so please state. Note that Figure 4-

5 indicates that as long as WACs are met for radiological constituents, the material can be treated and disposed on-site. Please clarify.

Characteristic waste would be treated then disposed in an off-site Subtitle D disposal facility. What if this waste contains radioactive material? Is this material to be shipped offsite because it failed on-site WACs for radiological constituents, and if so, how could a Subtitle D facility accept it.

The suggestion that treated waste with RCRA constituents would be sent off-site seems inconsistent with the LDR Compliance strategy developed earlier (Page 4-38, Line 14). In that discussion, wastes that do not meet WAC for RCRA constituents are treated before disposal on-site or disposal off-site. CAMU and AOC considerations allow disposal on-site without specifically meeting LDRs. Please elaborate on this apparent change in strategy.

Response:
Action:

90) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.2 Pg. #: 5-42 Line #: 19 Code: C
Original Comment #:
Comment: The effects of contaminated soil deposition in Paddys Run could be alleviated by erosion control measures. Sediment control structures, ponds, etc. could greatly reduce this short-term impact. Please discuss.
Response:
Action:

91) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.2 Pg. #: 5-49 Line #: Code: C
Original Comment #:
Comment: Table 5-7 should also indicate the year associated with the present worth costs.
Response:
Action:

92) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.5 Pg. #: 5-100 Line #: Code: C
Original Comment #:
Comment: Please note that Table 5-17 does not include an estimate of the volumes of mixed waste that are to be managed and pretreated. Please revise.

Response:

Action:

93) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 6-1 Pg #: 6-9 Line #: Code: c
Original Comment #:
Comment: The table would be more useful to the reviewer if footnotes or an additional column briefly defined land use and PRL levels for total U.
Response:
Action:

94) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 6-2 Pg #: 6-11 Line #: Code: c
Original Comment #:
Comment: a) It is unclear what soil treatment is occurring in alternative 3A that is not occurring in any of the other alternatives. This column should be revised for clarity and consistency.
b) As stated in previous comments, it is Ohio EPA's position that an ARAR waiver would be necessary for Alternatives 2C and 3C as a solid waste is being disposed over a sole-source aquifer.
Response:
Action:

95) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 6-3 Pg #: 6-13 Line #: Code: c
Original Comment #:
Comment: a) No footnote is provided for the "*" in Socioeconomics and Land Use.
b) The table fails to discuss the socioeconomic and land use impacts associated with alternatives that include large scale off-property excavations. These include temporary land use impacts on farming and residential areas.
c) As suggested for a previous table brief footnotes describing the risk cases would be helpful to the reviewer.
Response:
Action:

96) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 6.4.1.1 Pg #: 6-20 Line #: 17-19 Code: c
Original Comment #:
Comment: Considering that in most scientific analyses "high certainty" refers to a confidence level of 95-99%, the statement concerning "high certainty (>80%)" is certainly an overstatement .
Response:
Action:

97) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 6.4.1.2 Pg #: 6-20 Line #: 36-37 Code: c
Original Comment #:
Comment: These sentences should be revised to state "The only alternatives that comply with ARARs are the complete off-site disposal alternatives. All other alternatives would require...."
Response:
Action:

98) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 6.4.2.2. Pg #: 6-22 Line #: Code: c
Original Comment #:
Comment: As stated in previous Ohio EPA comments, we believe DOE has failed to consider some very appropriate technologies which could achieve the statutory preference for treatment. DOE should consider such treatment technologies as the "brickmaker" and mobility reducing compound additions even for the waste being placed in the on-site disposal cell.
Response:
Action:

99) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 7 Pg. #: 7-10 Line #: 33 Code: E
Original Comment #:
Comment: There is no Section 7.4; the reference should identify Section 7.2.4.
Response:
Action:

100) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 7 Pg. #: 7-15 Line #: Table 7-6 Code: C
Original Comment #:
Comment: An ILCR of a resident on-site farm adult which is greater than the on-site resident farm child seems inconsistent. Based on a smaller body weight of the child and the same exposure as the adult, why is the ILCR for the farm child lower? Please clarify.
Response:
Action:

101) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 7 Pg. #: 7-16 Line #: 10-21 Code: C
Original Comment #:
Comment: It is unclear whether the resident on-site child's HI level would be below 1.0 if background magnesium concentrations are not considered as a contributor. Please clarify and give the HI with magnesium not included.

Response:
Action:

!02) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 7 Pg. #: 7-17 Line #: 15-17 Code: C
Original Comment #:
Comment: The sentence is incomplete. Presumably, the sentence notes that, if background radionuclide and inorganic concentrations are removed, the HI is within the NCP acceptable range. If this is the meaning, what would be the revised HI? Please clarify and specify the values.
Response:
Action:

103) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 7 Pg. #: 7-18 Line #: 22-23 Code: C
Original Comment #:
Comment: The off-site disposal volume is projected at 775,000 cubic yards. The value in Table 7-4 obtained on summing individual volumes for each operational unit is approximately 714,000 cubic yards. The values are inconsistent. Please clarify.
Response:
Action:

104) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix A Pg #: A-2-7 Line #: 15 Code: c
Original Comment #:
Comment: Please locate these large tributaries on a map.
Response:
Action:

105) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix A Pg #: A-2-9 Line #: 18 Code: e
Original Comment #:
Comment: The Figure to is A-10 not A-8.
Response:
Action:

106) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix A Pg #: A-5-14 Line #: 19 Code: c
Original Comment #:
Comment: It is not OEPA's experience that tributyl phosphate is a common laboratory contaminant. Please justify this assertion.
Response:

Action:

107) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix A Pg #: Figure A-6 Line #: Code: e
Original Comment #:
Comment: Figure A-6 is impossible to read. It is too cluttered and the reader can't distinguish which wells yield greater than 1 gallon per minute.
Response:
Action:

108) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: B.4.2 Pg #: B-4-6; B-4-7 Line #: 29-38; 1-3 Code: c
Original Comment #:
Comment: Ohio EPA disagrees with DOE's position that removed soils that contain contaminants below PRLs are not a solid waste. These contaminated soils are considered wastes. The petroleum contaminated soils policy applies only to such soils and may not be used to for making determinations with regard to other wastes.
Response:
Action:

109) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table B-2 Pg #: B.2-9 Line #: Code: C
Original Comment #:
Comment: The citation to OAC 3745-27-06(C)(10)(c) should be rewritten as OAC 3745-32.
Response:
Action:

110) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table B-3 Pg #: B.3-21 Line #: Surface Water Section Code: C
Original Comment #:
Comment: The citation of OAC 6111.042 should be rewritten as **ORC** 6111.042
Response:
Action:

111) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table B-1 to 3 Pg #: B1-1toB.5.C-7 Line #: Code: C
Original Comment #:
Comment: Listed below are additional ARARs and TBCs which should be considered.

Ohio EPA OU5 FS/PP
January 31, 1995

Hazardous Waste ARARs which should be added:
a) OAC 3745-56-51, 54, and 58; Waste Piles - any storage piles of RCRA waste.
b) OAC 3745-57-40 thru 51; incinerator - thermal treatment for VOCs.
c) OAC 3745-57-91 to 93; miscellaneous methods of waste treatment - soil treatment.
d) 40 CFR 264 Subpart G (OAC 3745-55-11 to 16; HWMU closure requirements
Air Emission Standards
a) 40 CFR Part 61.90 thru 61.97; radionuclide emissions
b) 40 CFR 60.670 Subpart OOO; crusher standards if a proposed technology
c) OAC 3745.31-05(A)(3); air emission BAT requirements
d) OAC 3745-21-07(G)(2); organic material emissions
e) OAC 3745-21-02(C) & 3745-21-03(D); hydrocarbon emissions
f) OAC 3704.05(A-I); prohibits violation of air poll. control rules
Surface Water Standards
a) 40CFR 122.26 (OAC 3745-38); stormwater discharge
b)Ohio EPA policy "NPDES Wastewater Discharges Resulting from Clean-Ups of Response Action Sites Contaminated with VOC's; Policy #DSW-DERR 0100.027
Wastewater Standards
a)OAC 3745-31; PTI
Response:
Action:

112) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table B.4 Pg.#: B.4-5 Line#: Code: E
Original Comment #:
Comment: Production error on photocopy.
Response:
Action:

113) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix C Pg #: Line #: Code: c
Original Comment #:
Comment: It is unclear from review of the document wherein the determination with regard to the PRL being based upon background, detection limit, ARAR or risk is made. A table should be included that lists each of the criteria for each contaminant and shows which is selected.
Response:
Action:

114) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #:Appendix C, TOC Pg.#: C-ii Line#: last line Code: E
Original Comment #:

Comment: List of References is not included.
Response:
Action:

115) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Appendix C, TOC Pg.#: c-iii Line#: C.2-1b Code: E
Original Comment #:
Comment: "...On-property RME Child" should be "...On-property Child"
Response:
Action:

116) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Appendix C, TOC Pg.#: c-iii Line#: C.2-9 Code: E
Original Comment #:
Comment: "...Expanded Trespasser" should be "...Trespasser/Recreational" as on table on page C-2-38.
Response:
Action:

117) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.1 Pg.#: C-2-2 Line #: 25 Code: E
Original Comment #
Comment: Delete "...unit risk or..."
Response:
Action:

118) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.1 Pg.#:C-2-2 Line #: 28 Code: E
Original Comment #
Comment: Add "a" after 4 in to "...(EPA, 1994..."
Response:
Action:

119) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.2 Pg.#: C-2-6 Line #: 18 Code: M
Original Comment #:
Comment: The value "6.8×10^{-8}" should be "6.8×10^{-9}"
Response:
Action:

120) Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: C.2.2 Pg.#: C-2-6 Line #: 21 Code: E
Original Comment #:
Comment: The sum of unit risk for soil from these values is 2.41E-06; but when the above value is changed the sum of unit risk is correct, as in equation C.3-77.
Response:
Action:

121) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.2 Pg.#: C-2-6 Line #: 34 Code: E
Original Comment #:
Comment: Using the UR of 2.41E-6 yields a PRG of 0.41 pCi/g
Response:
Action:

122) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.3 Pg.#: C.2.8 Line #: 15 Code: C
Original Comment #:
Comment: The sum of unit risks is actually 1.25E-06.
Response:
Action:

123) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.3 Pg.#: C-2-8 Line #: (C.2-5) Code: C
Original Comment #:
Comment: "$1.7x10^{-6}$" in the equation should be "$1.16x10^{-6}$" to be consistent with the sum of unit risks given above and the PRG value of 0.86 pCi/L reported as the result. If 1.25E-06 is used in the equation, the PRG is 0.80 pCi/L
Response:
Action:

124) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.4 Pg.#: C-2-9 Line #: (C.2-6) Code: M
Original Comment #:
Comment: The PRG value should be "$2.3x10^{+3}$ pCi/L" as in Table C.2-9 instead of "10^{-3}"
Response:
Action:

125) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.4 Pg.#: C-2-9 Line #: (C.2-7) Code: M
Original Comment #:

Comment: The PRG value should be "$1.8x10^{+2}$ pCi/L" as in Table C.2-10 instead of "10^{-2}"
Response:
Action:

126) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.5 Pg.#: C-2-10 Line #: (C.2-8) Code: M
Original Comment #:
Comment: The PRG value should be "$1.13x10^{+1}$ pCi/L" as in Table C.2-11 instead of "10^{-1}"
Response:
Action:

127) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.6 Pg.#: C-2-10 Line #: (C.2-9) Code: M
Original Comment #:
Comment: "$2.7 x 10^{-9}$" in the equation should be "$1.3 x 10^{-9}$" and the PRG value is also incorrect based on the values provided in the equation ($3.7x10^{2}$).
Response:
Action:

128) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.2-1a Pg.#: Line #: 13 Code: C
Original Comment #
Comment: Information on ethyl ether is provided in Table C.4-2, so is this a COC?
Response:
Action:

129) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.2-6 Pg.#: Line #: Code: M
Original Comment #:
Comment: For U-238, the values in the column should <u>increase</u> by a factor of 10 from left to right (i.e., $4 x 10^{1}$, $4 x 10^{2}$, $4 x 10^{3}$) because the PRGs are based on cancer slope factors, as in the text (C.3-101).
Response:
Action:

130) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.1 Pg. #: C-3-2 Line #: 3 Code: C
Original Comment #:
Comment: Units for nonradionuclide concentration in air should be "mg/m^3" instead of "m^3/hr"
Response:

Action:

131) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.2 Pg. #: C-3-5 Line #: 16 Code: C
Original Comment #:
Comment: Units for nonradionuclide ingestion rate (IR) should be "kg/d" instead of "kg"
Response:
Action:

132) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.2 Pg. #: C-3-5 Line #: 34 Code: C
Original Comment #:
Comment: The value for I_{avU238} should be $7.31 \times 10^{+5}$ instead of 10^{-5}.
Response:
Action:

133) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.2 Pg. #: C-3-5 Line #: 38 Code: C
Original Comment #:
Comment: Why is this value different from that in line 34? And it should be 10^{+5} also.
Response:
Action:

134) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.2 Pg.#: C-3-6 Line #: 15 Code: C
Original Comment #:
Comment: "7.308×10^{-5}" should be $7.31 \times 10^{+5}$.
Response:
Action:

135) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-9 Line #: 5 Code: C
Original Comment #:
Comment: The value obtained by multiplying the number in equation C.3-22 is 2.67×10^{-2}
Response:
Action:

136) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-9 Line #: 35 Code: M
Original Comment #:

Comment: The value obtained by multiplying the numbers in equation C.3-25 is $1.73 \times 10^{+4}$ not "10^{-4}"
Response:
Action:

137) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-9 Line #: 41 Code: M
Original Comment #:
Comment: The value obtained by multiplying the numbers in equation C.3-26 is $2.07 \times 10^{+5}$ not "10^{-5}"
Response:
Action:

138) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-10 Line #: 5 Code: M
Original Comment #:
Comment: The scientific notation for values should be "+" not "-".
Response:
Action:

139) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-10 Line #: 6 Code: M
Original Comment #:
Comment: The value should be 2.24×10^{5} not "10^{-5}"
Response:
Action:

140) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-10 Line #: 9 Code: M
Original Comment #:
Comment: The unit intake should be 2.24×10^{5} pCi.
Response:
Action:

141) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-10 Line #: 28 Code: E
Original Comment #:
Comment: The value for I_{aAU238} is not the same as that reported from equation C.3-27, although the scientific notation is correct. The slope factor value in the equation should be 2.0 not 2.8. However, the answer in line 29 is correct when 2.0×10^{-11} and 2.24×10^{5} are used. "*r*" in the answer should be spelled out "*risk*"
Response:

Action:

142) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.4 Pg. #: C-3-11 Line #: 18 Code: M
Original Comment #:
Comment: The values for I_{ai} and I_{aAi} should be "x 10^{5}" not "x 10^{-5}". The answer reported on line 20 is correct for these corrected values, however.
Response:
Action:

143) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.2 Pg. #: C-3-13 Line #: 22 Code: E
Original Comment #:
Comment: "C_{wvi}" should be "C_{vwi}" to be consistent with the parameter in equation C.3-37.
Response:
Action:

144) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.2 Pg. #: C-3-14 Line #: 2 Code: E
Original Comment #:
Comment: Change "(d_w)" to "(IR)".
Response:
Action:

145) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.2 Pg. #: C-3-14 Line #: 7 Code: E
Original Comment #:
Comment: Add "($B_{iv(2)}$)" after "coefficient"
Response:
Action:

146) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.2 Pg. #: C-3-14 Line #: 8 Code: E
Original Comment #:
Comment: Add "(CF_p)" after "ratio"
Response:
Action:

147) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.2 Pg. #: C-3-14 Line #: C.3-38 Code: M

Original Comment #
Comment: The term "lambda$_{di}$" is reported in the text to equal 1.61 x 10^{-5} but the value for "lambda$_{Li}$" (6.49 x
10_{-6}) was used in this equation. The value "(0.483)" in this equation should be "(0.428)" based on values given in the text and on the previous page.
Response:
Action:

148) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.2 Pg. #: C-3-14 Line #: 17 Code: C
Original Comment #:
Comment: The value obtained by multiplying the correct values for equation C.3-38 is "4.98 x 10^{-3}". "(C.3.38)" should be "(C.3-38)"
Response:
Action:

149) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.3 Pg. #: C-3-16 Line #: 39 Code: E
Original Comment #:
Comment: "(d_w)" should be "(IR)"
Response:
Action:

150) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.3 Pg. #: C-3-17 Line #: 6 Code: E
Original Comment #:
Comment: "(Greek letter lambda)" should be "(Greek letter rho)" for effective dry surface density of the soil.
Response:
Action:

151) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.3.1 Pg. #: C-3-21 Line #: 14 Code: E
Original Comment #:
Comment: Change "4.4" to "4.41" to be consistent with result on page C-3-20, line 37.
Response:
Action:

152) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.3.2 Pg. #: C-3-22 Line #: 23 Code: E

Original Comment #:
Comment: "10^{-3}" should be "10^{3}"
Response:
Action:

153) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.3.3 Pg. #: C-3-25 Line #: 6 Code: M
Original Comment #:
Comment: The actual result should be "1.85 x 10^{-4} pCi/g" not "0.85..."
Response:
Action:

154) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.3.3 Pg. #: C-3-25 Line #: 39 Code: E
Original Comment #:
Comment: The value "4079" should be "4080" to be consistent with the result reported in line 35.
Response:
Action:

155) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.3.5 Pg. #: C-3-28 Line #: 1 Code: E
Original Comment #:
Comment: The value "2.559" should be "2.56" to be consistent with the result reported on page C-3-22, line 20.
Response:
Action:

156) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.3.5 Pg. #: C-3-28 Line #: 2 Code: C
Original Comment #:
Comment: The slope factor should be "2.0 x 10^{-11}". The resulting value on line 4 is correct when this value is used in the equation.
Response:
Action:

157) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.5.2 Pg. #: C-3-32 Line #: 10 Code: E
Original Comment #:
Comment: The SF_e is not inserted in the equation here.
Response:

Action:

158) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.6 Pg. #: C-3-36 Line #: (C.3-107) Code: E
Original Comment #:
Comment: The result should be "$6.0\underline{0} \times 10^{-4}$"
Response:
Action:

159) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.6 Pg. #: C-3-36 Line #: (C.3-108) Code: E
Original Comment #:
Comment: The result of using $6.0\underline{0}$ in the equation is 6.08×10^{-4}, which is used below in equation (C.3-110).
Response:
Action:

160) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.6 Pg. #: C-3-36 Line #: (C.3-109) Code: E
Original Comment #:
Comment: If the above value is used instead, the answer would be 1645 mg/kg.
Response:
Action:

161) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.6 Pg. #: C-3-36 Line #: (C.3-110) Code: C
Original Comment #:
Comment: The answer obtained from these calculations is actually 829 mg/kg for the weighted PRG. The value that should be in Table C.2-6 is 1.65×10^{2} as the soil PRG for the expanded trespasser.
Response:
Action:

162) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.3-2 Pg. #: C-3-45 Line #: Code: E
Original Comment #:
Comment: References listed in the table and footnote c are not cited in the References at the end of this section.
Response:
Action:

163) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.1 Pg. #: C-4-1 Line #: 21 Code: E
Original Comment #:
Comment: This should explain that toxicological profiles for some metals are in section C.4.5. The section on background concentrations is actually C.4.6.
Response:
Action:

164) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.4 Pg. #: C-4-7 Line #: 13 Code: E
Original Comment #:
Comment: "ATSDR 1991" needs to be identified as to whether it refers to ATSDR 1991a or ATSDR 1991b in the References.
Response:
Action:

165) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.4 Pg. #: C-4-7 Line #: 16 Code: E
Original Comment #:
Comment: EPA 1990d: Only one EPA 1990 is listed in the References.
Response:
Action:

166) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.4 Pg. #: C-4-7 Line #: 36 Code: E
Original Comment #:
Comment: "ATSDR 1991" needs to be identified as to whether it refers to ATSDR 1991a or ATSDR 1991b in the References.
Response:
Action:

167) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.4 Pg. #: C-4-7 Line #: 39 Code: E
Original Comment #:
Comment: "DOE 1994" needs to be identified as to whether it refers to DOE 1994a or DOE 1994b in the References.
Response:
Action:

168) Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: C.4.5.1 Pg. #: C-4-10 Line #: 21, 22 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"
Response:
Action:

169) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-11 Line #: 15 Code: E
Original Comment #:
Comment: "Casarette et al." should be "Casarett and Doull"
Response:
Action:

170) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-11 Line #: 23 Code: E
Original Comment #:
Comment: What does "(16 mg/L to 30 mg/L)" refer to?
Response:
Action:

171) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: C.4.6 Pg #: C-4-15 Line #: 12 Code: c
Original Comment #:
Comment: Shouldn't this be an HI of .2? It was the reviewers understanding that only uranium used an HI of 1.0 for PRG calculations.
Response:
Action:

172) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: M
Original Comment #:
Comment: 1,1-Dichloroethane oral RfD is reported as "NA," should be 1.00E-01 (Source: HEAST 1994).
Response:
Action:

173) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: C
Original Comment #:
Comment: The most recent criteria for inhalation RfD for 1,2-Dichloroethane is 2.86E-03 (Source:

EPA-ECAO provisional 1994)
Response:
Action:

174) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: M
Original Comment #:
Comment: The most recent criteria for inhalation RfD for Benzene is 1.71E-03 (Source: EPA-ECAO provisional 1994)
Response:
Action:

175) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: C
Original Comment #
Comment: The U.S. EPA weight of evidence for Bromoform is missing.
Response:
Action:

176) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: M
Original Comment #:
Comment: The values listed under Cancer Slope Factors for Bromomethane belong under the oral and inhalation Reference Doses for this compound. Bromomethane is not a carcinogen, and this will affect the risk assessment. However, it appears that RfDs were properly used in the assessment.
Response:
Action:

177) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: M
Original Comment #:
Comment: The oral RfD for Bromodichlorobenzene is 2.0E-2 (Source: IRIS 1994). Unsure where the inhalation Cancer Slope Factor for this compound came from, needs source citation. U.S. EPA weight of evidence is B2.
Response:
Action:

178) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: C

Original Comment #:
Comment: "Ethyl benzene" can be spelled as one word "ethylbenzene." Designation for U.S. EPA weight of evidence is missing (NA?)
Response:
Action:

179) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: C
Original Comment #:
Comment: The oral RfD for methylene chloride is 6.0E-02 (Source: IRIS 1994).
Response:
Action:

180) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: C
Original Comment #:
Comment: The most recent toxicity criteria for 4-Methyl-2-Pentanone (methyl isobutyl ketone) is 8.0E-02 (Source: HEAST 1994).
Response:
Action:

181) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-17 Line #: Code: M
Original Comment #:
Comment: The values listed under Cancer Slope Factors for 2-Butanone (methyl ethyl ketone) belong to the oral and inhalation Reference Doses for this compound. 2-Butanone is not a carcinogen. It appears that RfDs were properly used in the assessment.
Response:
Action:

182) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: C
Original Comment #:
Comment: The Cancer Slope Factor value for Tetrachloroethene should be written as "5.2E-02" for consistency. The most recent criteria for an inhalation slope factor is 2.03E-03 (Source: EPA-ECAO provisional 1994). U.S. EPA weight of evidence is missing.
Response:
Action:

183) Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: C
Original Comment #:
Comment: The RfD for 1,1,1-Trichloroethane of 9.0E-02 has been withdrawn.
Response:
Action:

184) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: E
Original Comment #:
Comment: The Inhalation slope factor for 1,1,2-Trichloroethane should be "5.6E-02." The weight of evidence classification is missing.
Response:
Action:

185) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: C
Original Comment #:
Comment: The weight of evidence for Trichloroethene is missing.
Response:
Action:

186) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: C
Original Comment #:
Comment: The weight of evidence for bis(2-Chloroisopropyl) ether is missing.
Response:
Action:

187) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: C
Original Comment #:
Comment: The weight of evidence for 3.3'-Dichlorobenzidine is missing.
Response:
Action:

188) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: M
Original Comment #:
Comment: The most recent toxicity criterion for an oral RfD for 4-Methylphenol is 5.0E-03 (Source: HEAST 1994).

Response:
Action:

189) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: C
Original Comment #:
Comment: The most recent toxicity criterion for an oral cancer slope factor for N-Nitroso-di-n-propylamine is 7.00E+00 (Source: IRIS 1994).
Response:
Action:

190) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: M
Original Comment #:
Comment: The toxicity criteria and other notes for N-Nitroso-di-phenylamine are missing from this table.
Response:
Action:

191) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-18 Line #: Code: M
Original Comment #:
Comment: The most recent toxicity criterion for an oral slope factor for Benzo(a)anthracene is 7.3E-01 (Source: EPA-ECAO provisional 1994)
Response:
Action:

192) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-19 Line #: Code: M
Original Comment #:
Comment: The most recent toxicity criteria for oral and inhalation slope factors for Indeno(1,2,3-cd)pyrene are 7.3E-01 and 6.1E-01, respectively (Source: EPA-ECAO 1994).
Response:
Action:

193) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-19 Line #: Code: C
Original Comment #:
Comment: The most recent toxicity criterion for inhalation slope factor for Chlordane is 1.29E+00 (Source: IRIS 1994).

Response:
Action:

194) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-20 Line #: Code: E
Original Comment #:
Comment: "Antimony" should be "Antimony and compounds"
Response:
Action:

195) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-20 Line #: Code: C
Original Comment #:
Comment: The inhalation RfD for trivalent chromium of 5.71E-07 has been withdrawn.
Response:
Action:

196) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-20 Line #: Code: E
Original Comment #:
Comment: "Copper" should be "Copper and compounds"
Response:
Action:

197) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-20 Line #: Code: E
Original Comment #:
Comment: "Cyanide" should be "Cyanide, free"
Response:
Action:

198) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-20 Line #: Code: E
Original Comment #:
Comment: The uncertainty factor of "[10]" should be under the oral RfD value, not beside it.
Response:
Action:

199) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-20 Line #: Code: E

Original Comment #:
Comment: "Mercury" should be "Mercury, inorganic." The uncertainty factor of "[30]" should be under the inhalation RfD, not beside it.
Response:
Action:

200) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-21 Line #: Code: E
Original Comment #:
Comment: "Silver" should be "Silver and compounds"
Response:
Action:

201) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-2 Pg. #: C-4-21 Line #: Code: E
Original Comment #:
Comment: "Thallium" could refer to a variety of thallium salts and the specificity of the oral RfD should be indicated here.
Response:
Action:

202) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-3 Pg. #: C-4-22 Line #: Code: C
Original Comment #:
Comment: The value "(Risk-g/yr-pCi)" is presented in HEAST as "risk/yr per pCi/g soil"
Response:
Action:

203) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-3 Pg. #: C-4-22 Line #: Code: M
Original Comment #:
Comment: The values given for oral, inhalation, and external radiation slope factors for Cesium-137+1D do not match the values reported in HEAST (1994): 1.4E-13, 1.0E-13, 2.8E-09.
Response:
Action:

204) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-3 Pg. #: C-4-22 Line #: Code: M
Original Comment #:
Comment: The value given for external radiation cancer slope factor for Neptunium-237 does not agree

with value reported in HEAST (1994): 7.8E-09.
Response:
Action:

205) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-3 Pg. #: C-4-22 Line #: Code: M
Original Comment #:
Comment: No values were provided for any of the cancer slope factors and other information for Lead-210+2D, which are reported in HEAST (1994).
Response:
Action:

206) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.4-3 Pg. #: C-4-22 Line #: Code: E
Original Comment #:
Comment: In the value for "GI Absorption Factor" for Radium-226+8D, the "3" in "2.03-01" should be an "E"
Response:
Action:

207) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-4-23 Line #: Miller, Marken Code: E
Original Comment #:
Comment: Titles are missing from these references. Thomson et al.
Response:
Action:

208) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.1 Pg. #:C-2-1 to C-2-4 Line #: Code: C
Original Comment #:
Comment: The scenarios considered in the development of PRGs are not adequately described. Because development of PRGs is of critical importance to the Feasibility Study - the section describing PRG development should be written as a largely self- contained document. Conceptual models describing each exposure scenario should be presented. Media intake rates and exposure duration and frequency assumptions under each scenario should be presented in table format to facilitate comparison.
Response:
Action:

209) Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: C.2 Pg. #: Line #: Code: M
Original Comment #:
Comment: The apparent arithmetic errors in the section describing the development of PRGs detracts from confidence that this section has received even rudimentary QA/QC.
Response:
Action:

210) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2 Pg. #: C-2-11 Line #: Table C.2-1a Code: C
Original Comment #:
Comment: There should be a symbol indicating whether the PRG value is based on the cancer risk or the hazard quotient.
Response:
Action:

211) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-8 Line #: Equation C.2-5 Code: C
Original Comment #:
Comment: The equation lists the sum of the unit risks as being 1.7E-6. However, the sum is given as 1.16E-6 on line 15 of the same page.
Response:
Action:

212) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-8 Line #: 14 Code: C
Original Comment #:
Comment: The sum of the unit risks on lines 10 through 13 is not 1.16E-6. Instead it is 1.25E-6.
Response:
Action:

213) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-6 Line #: 21 Code: C
Original Comment #:
Comment: The sum of soil exposure unit risks on line 21 does not add up to 2.35E-6 but rather 2.41E-6 or possibly 2.40E-6 (given the largest possible rounding error bias to the summed values).
Response:
Action:

214) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-9 Line #: Equation C.2-6 Code: E

Original Comment #:
Comment: The value for the quotient should be 2.3E+3 not 2.3E-3.
Response:
Action:

215) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-9 Line #: Equation C.2-7 Code: E
Original Comment #:
Comment: The value for the quotient should be 1.8E+2 not 1.8E-2.
Response:
Action:

216) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-10 Line #: Equation C.2-8 Code: E
Original Comment #:
Comment: The value for the quotient should be 1.1E+1 not 1.1E-1.
Response:
Action:

217) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-10 Line #: Equation C.2-9 Code: E
Original Comment #:
Comment: The value for sediment unit risk due to sediment pathways was incorrectly taken from the sum on line 29 of this page. The division of 2.7E-9 into 1.0E-6 also does not appear to have been performed correctly.
Response:
Action:

218) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-3-5 Line #: Equation C.3-13 Code: E
Original Comment #:
Comment: The calculation of the lifetime intake for U-238 appears to have the sign of the exponent recorded incorrectly. The value should be 7.31E+5 not 7.31E-5.
Response:
Action:

219) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-3-6 Line #: Equation C.3-15 Code: E
Original Comment #:
Comment: The equation appears to take the incorrect value for lifetime U-238 intake from Equation

C.3-13 as 7.31E-5. However if the correct exponent of +5 is used the final answer still does not appear to be correct and should be 1.46 E-5 rather than 1.49E-5.

Response:
Action:

220) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-3-9 Line #: Eqs. C.3-25 & C.3-26 Code: E
Original Comment #:
Comment: The exponents of the products should be positive rather than negative.
Response:
Action:

221) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-3-10 Line #: Equation C.3-28 Code: E
Original Comment #:
Comment: The equation apparently takes the results of the incorrectly written results of equations C.3-25 and C.3-26 and gets the correct answer for all but the exponent (listed as negative but apparently should be positive) of Equation C.3-28.
Response:
Action:

222) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: C-2-10 Line #: 32 Code: C
Original Comment #:
Comment: The value listed in equation C.2-9 as the sediment PRG for U-238 is 1.16×10^{-3} pCi/L. However Table C.2-12 on page C-2-47 lists the same value as $2.7 \times 10^{+2}$ pCi/g. Even allowing for the different units involved, the difference is not clear. Please explain.
Response:
Action:

223) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.1 Pg.#: F-1-8 Line #: 22 Code: E
Original Comment #:
Comment: A suggested change for the term "driving gradient" is "hydraulic gradient", as this is more specific and technically correct. Further, there is no mention of effective porosity as a factor important to contaminant transport.
Response:
Action:

224) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: AppF Pg. #: F-1-12 Line #: 38 Code: C
Original Comment #:
Comment: Further explanation should be given to justify that each source area can be simulated by ECTran individually to develop CPRGs and WACs. The current approach does not examine the effects of multiple sources on a single receptor location.
Response:
Action:

225) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: AppF Pg. #: F-1-15 Line #: 3 Code: C
Original Comment #:
Comment: Because the source depletion time and source depletion rate are key model parameters, a more detailed explanation of the calculations involved in their determination should be given to ensure a conservative mass loading rate into layer 1 for later model simulations. Several FEMP reports were examined, including reports for OU-2, but no detailed explanation was found. Therefore, a detailed discussion of this would be very useful in this section of the report.
Response:
Action:

226) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: F.1.5.3.3 Pg #: F-1-15 Line #: 13-40 Code:
Original Comment #:
Comment: What platform was the ground water modeling conducted on for both the RI and the FS? If it was performed using an Intel pentium processor, DOE needs to assess any impact that the flawed processor may have had on modeling efforts.
Response:
Action:

227) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.3.3 Pg.#: F-1-15 Line #: 24 Code: E
Original Comment #:
Comment: The most recent version of SWIFT is version 2.54, not 2.52 as referenced on page F-7-39.
Response:
Action:

228) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.3.3 Pg.#: F-1-15 Line #: 37 Code: E
Original Comment #:

Comment: Assuming that SWIFT version 2.54, not 2.52 was used, the correct reference is "SWIFT/486", not "SWIFT/386".
Response:
Action:

229) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.3.3 Pg.#: F-1-16 Line #:9 Code: C
Original Comment #:
Comment: It is not justified to refer to the ECTran model as "robust" because this was intentionally developed and chosen to be less "robust" than the three-dimensional model SWIFT and more hence efficient.
Response:
Action:

230) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: AppF Pg. #: F-1-16 Line #: 12 Code: C
Original Comment #:
Comment: Monte Carlo simulations of the ECTran model were not apparently performed to develop CPRGs and WACs. The use of Monte Carlo methods would provide a better evaluation of the uncertainty of key model parameters. Why were Monte Carlo simulations not performed to help develop CPRGs and WACs.
Response:
Action:

231) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.3.3 Pg.#: F-1-16 Line #: 19 Code: E
Original Comment #:
Comment: The reference to "DOE 1993a" should be "DOE 1993b". The references should be resequenced.
Response:
Action:

232) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.3.3 Pg.#: F-1-16 Line #: 22 Code: C
Original Comment #:
Comment: To describe ECTran as "without dispersion" is misleading because the ECTran model assumes instantaneous mixing in sublayers within the unsaturated zone. The number and thickness of these mixing sublayers in ECTran controls the increase in vertical concentration due to vertical spreading effects caused by the assumption of instantaneous, perfect mixing.

In other words, the effect of instantaneous, perfect mixing is similar to hydrodynamic dispersion and, therefore, the effects of the perfect mixing assumption should be mentioned along with the statement on line 22.

The stirred-cell reactor model does simulate vertical mixing, but not in the classical dispersion tensor formulation. There is mixing (i.e. dispersion), based on the cell size and rate of fluid transfer. The model should be described more correctly as series of cascading stirred-cell reactors which result a distribution or spreading of the concentration profile. This technique approaches "no dispersion" theoretically as the number of reactors becomes infinite.

Response:
Action:

233) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: AppF Pg. #: F-1-16 Line #: 38 Code: C
Original Comment #:
Comment: Although ECTran represents the effects of pumping by assuming no source releases during the pumping period, the ECTran model does not simulate the changes in groundwater flow rates and directions which occur as a result of pumping. Instead, ECTran assumes that any contaminants released prior to pumping will migrate at unstressed groundwater flow rates directly toward the nearest receptor. The results from a more complex model such as SWIFT should be used for examining the effects of pumping on the transport of contaminants throughout the site. However, since ECTran is only being applied to calculate exposure point concentrations, its simplified representation of pumping, under the assumption of unstressed flow rates, provides conservative concentration values at the exposure point.
Response:
Action:

234) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: AppF Pg. #: F-1-16 Line #: 41 Code: C
Original Comment #:
Comment: This statement is incorrect. Replace "groundwater flow conditions" with "uniform groundwater flow velocity".
Response:
Action:

235) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: AppF Pg. #: F-1-20 Line #: 35 Code: C
Original Comment #:
Comment: Multilayer is misspelled.

Response:
Action:

236) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.6 Pg.#: F-1-22 Line #: 6 Code: E
Original Comment #:
Comment: Should be "Release 2.32" not "2.5".
Response:
Action:

237) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.2.2.1 Pg.#: F-2-4 Line #: 15 Code: C
Original Comment #:
Comment: The vertical matrix potential profile in Figure F.2-4 shows a dramatic change in slope in the gray clay directly beneath sand. Assuming the grey clay to be homogeneous, the steady-state profile should not have a marked change. While the diagram is not to scale, the general shape of the pressure profile should be consistent with the conceptual model.
Response:
Action:

238) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.2.2.1 Pg.#: F-2-4 Line #:35 Code: C
Original Comment #:
Comment: The term permeability "enhancers" is inappropriate and should be replaced with "variations". Further explanation or reference should be provided when discussing fractures (presumably those in the brown and to a lesser extent the gray till) as the cause of "dripping" variations. Variations in the till/GMA contact is also very important to localized variations in seepage into the GMA.
Response:
Action:

239) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: AppF; Sec.3.0 Pg. #: F-3-2 Line #: 23 Code: C
Original Comment #:
Comment: The summary of COC screening is in Section F.2.3.
Response:
Action:

240) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.3.2.5 Pg.#: F-3-7 Line #: 19 Code: E

Ohio EPA OU5 FS/PP
January 31, 1995

Original Comment #:
Comment: There is an extraneous "minus" sign between the *erfc* and *erf* terms in Equation 5. Also, it would be helpful to indicate that this is the centerline concentration for two-dimensional advective-dispersive transport.
Response:
Action:

241) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.3.2.5 Pg.#: F-3-8 Line #:17-19 Code: C
Original Comment #:
Comment: Please provide a reference for estimated surface water infiltration and flow in GMA.
Response:
Action:

242) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.3 Pg.#: F Line #: Code: E
Original Comment #:
Comment: Units for Tables F.3-6 though 9 should be mg/kg.
Response:
Action:

243) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.5.2.4 Pg.#: F-5-8 Line #: 35-40 Code: C
Original Comment #:
Comment: Explain the rationale for using a minimum mixing depth of 10 feet for the disposal cell and consolidation with cap options as compared to using equation 8 for the consolidation with earthen cover option. This does not seem to be consistent in comparing the alternatives. The equation predicts a mixing depth of 29 feet, thus a three-fold increase in dilution for the consolidation with earthen cover option.
Response:
Action:

244) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.2.4 Pg.#: F-7-8 Line #: 9 Code: C
Original Comment #:
Comment: What averaging procedure was used for model layer 2? While arithmetic is generally the most conservative, a logarithmic approach might be more realistic.
Response:
Action:

245) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7 Pg.#: F Line #: Code: C
Original Comment #:
Comment: Figures F.7-29, 30, 36, 37, 43, 44. Why does the Zone 2 concentration in Layer 6 increases dramatically between years 5 and 10? There is no extraction in model layers 5 and 6. Apparently this may result from artificial vertical dispersion as discussed in F.7.7.3.
Response:
Action:

246) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.3.3 Pg. #: F-1-14 Line #: 15 Code: C
Original Comment #:
Comment: Two homogeneous layers are referred to in this sentence, however it is not clear what hydrostratigraphic units these layers represent. Please clarify.
Response:
Action:

247) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.1.5.3.3 Pg. #: F-1-15 Line #: 40 Code: C
Original Comment #:
Comment: Because they are undocumented, a reference should be made to the verification and the correct implementation of the mentioned data extraction and manipulation programs.
Response:
Action:

248) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.2.2.1 Pg. #: F-2-3 Line #: 27 Code: C
Original Comment #:
Comment: The clarification indicating that highlighted areas do not necessarily represent continuous interconnected units should be included in the FS to avoid misinterpretation.
Response:
Action:

249) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table F.2-2 Pg. #: Line #: Code: C
Original Comment #:
Comment: It is unclear from Table F.2-2, why the following COPCs require CPRG screening: 3,3'-dichlorobenzidine, 4-methylphenol, and dieldrin. Likewise, it is unclear from Table F.2-2 why the following COPCs do not require CPRG screening: tetrachloroethene, trichloroethene, bis(2-ethylhexyl)phthalate, barium, cadmium, copper, molybdenum, nickel,

silver, thallium, vanadium, and zinc.
Response:
Action:

250) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: F.5.2.1 Pg #: F-5-3 Line #: 33 Code:
Original Comment #:
Comment: This description of the liner system is not consistent with the rest of the document. It does not include any geo-synthetic membranes or leachate collection systems.
Response:
Action

251) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.5.2.2 Pg. #: F-5-5 Line #: 30 Code: C
Original Comment #:
Comment: The rationale for the selection of this time period as the default climatological data should be included.
Response:
Action:

252) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.5.2.4 Pg. #: F-5-8 Line #: 11-13 Code: C
Original Comment #:
Comment: Suggest stating "By not considering this layer, conservatism is added by modeling higher concentrations reaching the Great Miami Aquifer faster". Otherwise, this sentence implies that this process is actually occurring.
Response:
Action:

253) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.6.1.2 Pg.#: F-6-3 Line #: Code: C
Original Comment #:
Comment: Why does the technical approach not include a comparison simulation of the remedial actions utilizing the GO/UGMAS model?
Response:
Action:

254) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.6.2.1 Pg. #: F-6-3 Line #: 36 Code: C
Original Comment #:

Comment: Section 4.7.2 of the OU5 Draft Final RI October 1994 states that there are seven geographically separate areas of perched groundwater contamination at the FEMP. The perched groundwater zone presented in Figure F.6-2 does not include all of these areas. Given that one of the three protection criteria presented in the Executive Summary section of Appendix F.6 is Perched Groundwater, Section F.6.2.1 should clearly state the rationale for the reduction of the perched groundwater zone from the seven areas presented in the RI to the zone presented in the Draft FS. The reader may be able to ascertain from Sections F.2.2.2 and F.6 that the zone was determined based on areas of perched groundwater able to sustain pumping at 1 gpm and where lateral migration pathways may exist, however, it is not clearly presented. The FS should make it clear that there will be contaminated perched groundwater outside of the identified "zone" that will not be addressed. Therefore, the Perched Groundwater protection criterion should be modified to state that only perched groundwater within the identified "zone" will be protected.

Response:
Action:

255) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.6.2.1.2 Pg. #: F.6-7 Line #: 1-2 Code: C
Original Comment #:
Comment: This section refers to Tables F.6-1 and F.6-2 where the values of hydraulic conductivity are identified based on slug test data. Why are data from the pump tests in the coarse grained sediment bodies or the calibration of the GO/UGMAS model not utilized? These sources of data could be considered more reliable and representative than isolated slug tests.

Response:
Action:

256) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Tables F.6-1 & F.6-2 Code: C
Original Comment #:
Comment: The porosity values listed in these tables contradict the values which were presented in the GO/UGMAS model.

Response:
Action:

257) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7 Pg. #: F-7-2 Line #: 12 Code: C
Original Comment #:
Comment: The last bullet under the heading for Clean-up to 3 ug/l indicates that there was an evaluation for the containment to 20 ug/l and that predicted range of time required is 330 to 380 years. This is not discussed in the subsequent text of Section F.7. Given that it is highlighted in the

Executive Summary, some discussion is warranted.
Response:
Action:

258) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.2.1 Pg. #: F-7-5 Line #: 24 Code: C
Original Comment #:
Comment: Does this section intend to state that only the selected design will be refined with optimization in the preliminary design effort? It is understood that the "simple direct extraction philosophy" facilitates evaluation of costs and that detailed enhancement systems (e.g. sparging) do not need to be evaluated at this stage. However, the comparison of effectiveness of different extraction scenarios will be better served by considering more extensive optimization (e.g. well numbers, location, depth, pumping rate). Given similarity of the results presented in Section F.7.4, it is possible that the designs not selected for the preliminary design effort would perform more efficiently and meet the remediation objectives earlier upon optimization.
Response:
Action:

259) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.4.4 Pg. #: F-7-16 Line #: 2 Code: C
Original Comment #:
Comment: This line states that it will be determined if additional off-site wells can significantly improve the overall system performance; however, Section F.7 does not report the results of this evaluation.
Response:
Action:

260) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.5 Pg.#: F-7-17 Line #: 9 Code: C
Original Comment #:
Comment: The first two sentences of this paragraph could be made more clear.
Response:
Action:

261) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.4.7 Pg. #: F-7-20 Line #: 9 Code: C
Original Comment #:
Comment: Which pumping scenario was used in this analysis? Both Figures F.7-42 (Scenario 3B) and F.7-43 (Scenario 3A) are referred to and compared to F.7-63 and F.7-64 respectively.

Response:
Action:

262) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.9.2 Pg. #: F-7-38 Line #: 1-5 Code: C
Original Comment #:
Comment: The noted benefits of pulsed pumping can similarly be achieved by manipulating pumping schedules and locations (e.g., variations on the pulsed pumping concept), and by the use of reinjection.
Response:
Action:

263) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7 Pg.#: F Line #: Code: C
Original Comment #:
Comment: With regard to Tables F.7-6, 7, 8, and 9, please indicate in which layers the extraction wells are completed as is done in Table F.7-12. If wells are completed in multiple layers, indicate the method used to allocate the pumping rates between layers under dewatered conditions.
Response:
Action:

264) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.5.1 Pg.#: F-7-21 Line #: 8 Code: C
Original Comment #:
Comment: The text claims that only one scenario was developed, but in Table F.7-12 there are two pumping schedules. Are these scenarios 4a and 4b? Which schedule is used the calculations?
Response:
Action:

265) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.5.1 Pg.#: F-7-21 Line #: 27-28 Code: C
Original Comment #:
Comment: How is the extraction rate implemented with wells that are completed in several layers? Is the layer allocation based on the total block transmissivity or the reduced transmissivity resulting from dewatering? In addressing the partially dewatered blocks, was the average water elevation in the cell used to scale the layer allocation or was the head at the well (via well index and bottom hole pressure) used?
Response:
Action:

266) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.7.2 Pg.#: F-7-26 Line #:35 Code: C
Original Comment #:
Comment: What is the magnitude of the dewatering? Please provide a contour map of the drawdown for each of the pumping scenarios. It is difficult to appreciate the importance of the error in the simulations caused by dewatering. In Figure F.7-107, one of the possible 6 pumping schedules is presented with drawdown contours exceeding 8 feet, but the maximum reported is 7.266 feet.
Response:
Action:

267) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.4.1 Pg.#: F-7-14 Line #: 16 Code: C
Original Comment #:
Comment: It would be helpful to point out the reason for the drop in concentration in layer 1 after 20 years (i.e. the time at which the source loadings from OU1, and OU2 cease). This has the most dramatic effect on Zones 1, 2, and 3.
Response:
Action:

268) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.4 Pg.#: Line #: Code: C
Original Comment #:
Comment: In comparing the maximum concentration curves simulated for the different layers, there appears to be a significant degree of vertical mixing after 40 years. Is this primarily the result of unwanted artificial vertical dispersion or the result of system hydrodynamics?
Response:
Action:

269) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7. Pg.#: Line #: Code: C
Original Comment #:
Comment: Please provide a representative input data file for the SWIFT simulation of the groundwater remediation in digital format. It is preferable that the restoration to 20 ppb scenario be used. The input file should also include the initial concentration distribution for all 6 layers. For reference, please provide a CAD drawing file in DXF export format of the site features (i.e., Figure F.7-4; PO113/SX03291.DGN). Please also provide the revised source code.
Response:
Action:

270) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.7.3 Pg.#: F-7-27 Line #: Code: C
Original Comment #:
Comment: Vertical dispersion within the SWIFT model can modified through the use of scale factors, specifically FTUZ on the R1-26 record. A multiplier of 0.01 will reduce the DZZ (vertical hydrodynamic dispersion) by a factor of 100. Could this option have been used to decrease the artificial vertical dispersion?
Response:
Action:

271) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.7.6 Pg.#: F-7-31 Line #: 6-18 Code: C
Original Comment #:
Comment: If the model is constrained by constant head boundaries and an area approximately 3 time the current model grid would be required, is such a model revision planned? Is it not possible to simulate the flow using a regional coarse grid and interpolate new boundaries for the current 120 x 112 grid?
Response:
Action:

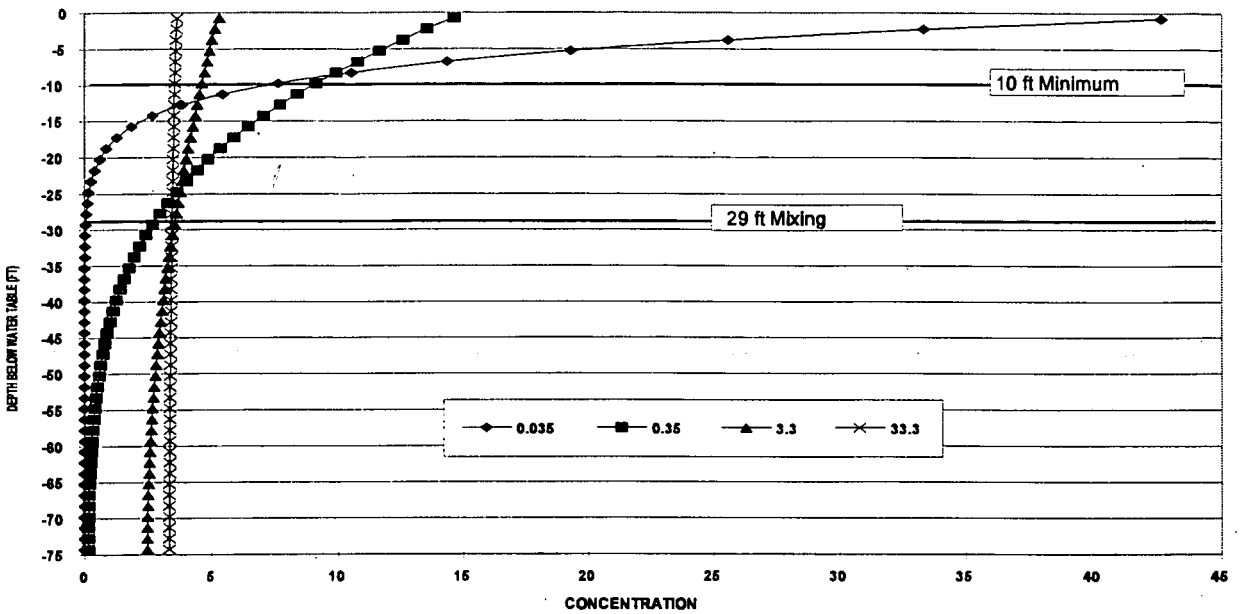
272) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.7.3 Pg.#: F-7-27 Line #: 18 Code: C
Original Comment #:
Comment: The finite difference grid increments, both areally and vertically, are much too coarse to accurately simulate a transverse dispersivity of 0.1 feet. While truncation analysis has only been developed for the longitudinal coefficient, it is reasonable to assume that transverse dispersion is affected by grid size. It is very likely that sensitivity analysis would show the model to be insensitive to transverse dispersivities less than a few feet. At these low values, the solution is likely to be overcome with numerical dispersion.
Response:
Action:

273) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.3.2.6 Pg.#: F-3-9 Line #: 29-32 Code: C
Original Comment #:
Comment: Justification for selecting different mixing depths is needed. The ECTran model calculates the mixing depth as a function of the ratio of vertical and horizontal fluxes and the vertical dispersivity (Equation 8, p. 3-10 in ECTran Sept 1993 documentation). The mixing depth is dominated by the latter term in which a vertical dispersivity of 0.35 feet results in a calculated mixing depth of 26.45 feet.

In order to better understand the importance of the magnitude of the vertical dispersivity and analyze the approximation of the mixing depth relation, we constructed a numerical model. A two-dimensional vertical section of the saturated GMA, extending 1000 by 75 feet was simulated using SWIFT. Small grid blocks were assigned to represent the mixing directly beneath the disposal area. A grid 40 columns by 50 rows with a cell size of 25.0 by 1.5 feet was constructed. A horizontal flow rate of 304 ft/year was imposed using constant heads. The longitudinal dispersivity assigned was 100 feet and four values of transverse dispersivity were simulated. Contaminant transport was simulated to steady-state. Concentration profiles along the downgradient edge of the landfill were plotted as shown below:

These simulations show (for the system modeled using SWIFT) the relationship between transverse dispersivity and mixing depth. The higher dispersivity values produce unrealistically deep mixing depths. The dispersivities and calculated mixing depths used in the ECTran simulations are within the reasonable range of results simulated using SWIFT. Because the contaminants are generally limited to the 2000 and 3000 series wells, it is reasonable to assume that the vertical dispersivity is small and probably less than 1 foot.

Response:
Action:



274) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: Line #: Code: C
Original Comment #:
Comment: Information Comment: The results of ECTran were compared to coded analytical solutions (Wexler 1989) for solute transport in the Miami aquifer for a one-dimensional point source (SEMINF), a two-dimensional areal strip source (STRIPI), and a three-dimensional patch source (PATCHF). This comparison is very useful because it allows one to determine the level of conservativeness for any lateral aquifer transport application of the ECTran model. The model parameter values used in this comparison are provided below.

The plot shown on the following page shows that the ECTran model computes uranium concentrations that are similar to the more conservative one-dimensional point source along the centerline of the plume for any time greater than 50 years. For any time less than 50 years, concentration values calculated by ECTran are lower than the other solutions because the analytical solution (Domenico 1987) used by ECTran disregards the second term of the Ogata and Banks (1961) solution. The Ogata and Banks (1961) was used to develop the Domenico (1987) solution. The effects of transverse dispersion do not decrease concentrations along the centerline of the plume because of the large width of the source

area (1000 ft). Given this source size, the uranium concentrations computed by ECTran model are therefore similar to the more conservative one-dimensional (disregards transverse dispersion) point source after 50 years.

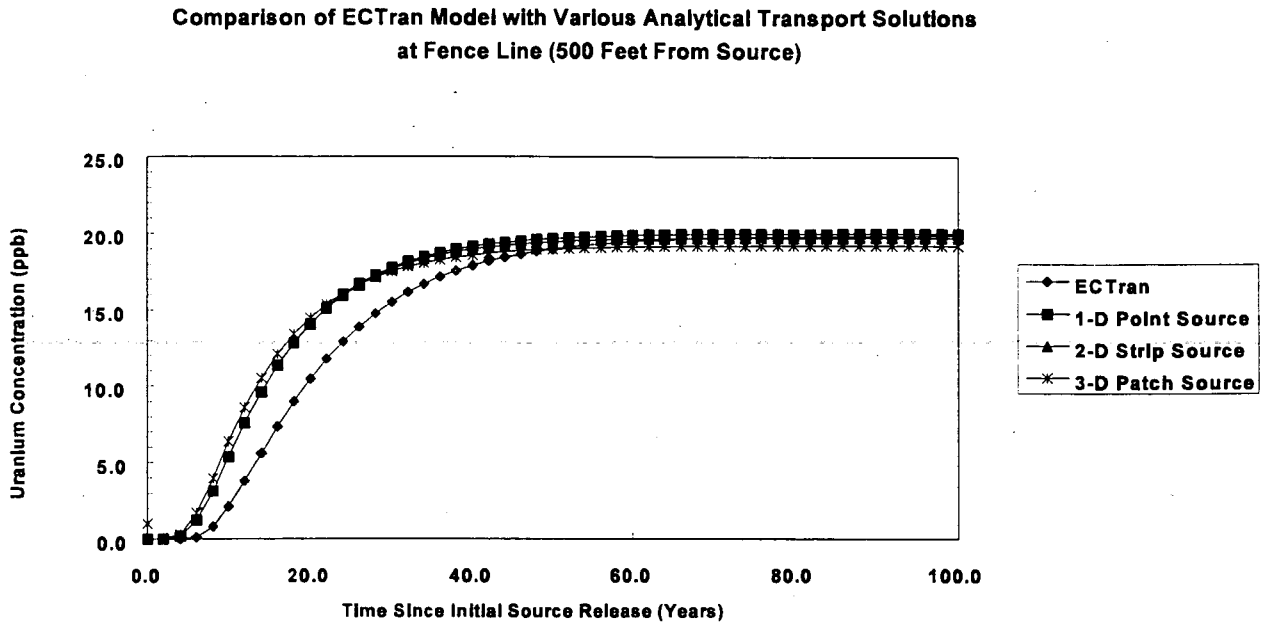
Model Parameter		Value
Source Concentration	20 ppb	
Aquifer Saturated Thickness		75 ft
Aquifer Mixing Depth	30.6 ft	
Average Linear Groundwater Velocity		304 ft/yr
Retardation Factor		10.49
Longitudinal Dispersivity	100 ft	
Horizontal Transverse Dispersivity	33 ft	
Vertical Transverse Dispersivity	0.35 ft	
Uranium Half Life		4.5×10^9 yr
2-D Strip Source Width	1000 ft	
3-D Strip Source Width	1000 ft	
3-D Strip Source Thickness		30.6 ft
Fence Line Distance From Source	500 ft	

REFERENCES

Domenico, P. A. 1987. An Analytical Model for Multidimensional Transport of a Decaying Contaminant Species. J. Hydrol., Vol. 91, pp. 49-58.

Ogata, A. and R. B. Banks. 1961. A Solution of the Differential Equation of Longitudinal Dispersion in Porous Media. U. S. Geologic Survey , Prof. Paper no. 411-A.

Wexler, E. J. Analytical Solutions for One-, Two-, and Three-Dimensional Solute Transport in Ground-Water Systems With Uniform Flow. U. S. Geologic Survey, Open File Report 89-56.


Comparison of ECTran Model with Various Analytical Transport Solutions
at Fence Line (500 Feet From Source)
Uranium Concentration (ppb)
25.0
20.0
15.0
10.0
5.0
0.0
0.0
20.0
40.0
60.0
80.0
100.0
Time Since Initial Source Release (Years)
ECTran
1-D Point Source
2-D Strip Source
3-D Patch Source

275) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: G.4.2 Pg. #: G-4-3 Line #: 32-33 Code: C
Original Comment #
Comment: The sentence that states "These results represent the average number of injuries and fatalities that may be expected to occur." should be amended to include the period over which these events occur.
Response:
Action:

276) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table G.I-2 Pg. #: G.I-20 Line #: Code: E
Original Comment #
Comment: Missing legend for superscript "c" and "e" referred to in table header.
Response:
Action:

277) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table G.I-2 Pg. #: G.I-20 Line #: Code: E
Original Comment #
Comment: Total Person Hours referred to in item "c" of legend is in Table G.3-4 rather than G.3-3.
Response:
Action:

278) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table G.I-2 Pg. #: G.I-20 Line #: Code: E
Original Comment #
Comment: Formula in item "e" of legend is incorrect. Should divide by 22 years not multiply.
Response:
Action:

279) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table G.I-2 Pg. #: Line #: Code: C
Original Comment #
Comment: Formula used for CEDE calls for exposure times in hr/day, however, numbers in table are in units of hr/life.
Response:
Action:

280) Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Table G.I-2 Pg. #: Line #: Code: M
Original Comment #
Comment: Formula for ILCR given as item "g" in legend does not produce numbers in table. Risks by formula are 2 orders of magnitude lower.
Response:
Action:

281) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table G.I-2 Pg. #: Line #: Code: M
Original Comment #
Comment: Formula for ILCR given as item "g" in legend does not produce numbers in table. Risks by formula are 2 orders of magnitude lower.
Response:
Action:

282) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table G.I-4 Pg. #: Line #: Code: M
Original Comment #
Comment: Risks by formula for ILCR in item "g" are 2 orders of magnitude lower than those indicated in the table.
Response:
Action:

283) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: G.I.1.3 Pg. #: G.I-3 Line #: 20 Code: C
Original Comment #
Comment: The value of 7×10^{-5} cited for the total risks for excavation is not reflected in the table G.I-2.
Response:
Action:

284) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-i Line #: TOC Code: E
Original Comment #
Comment: H.1.2 "Postremediation Site Conditions" should be changed to "Organization of the Operable Unit 5 CRARE"
Response:
Action:

285) Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: H Pg. #: H-iii Line #: TOC Code: E
Original Comment #
Comment: Attachment H.I cover page reads "Computer Print Outs Mass Loading" but should be "Water Transport Modeling" to be consistent with the materials therein.
Response:
Action:

286) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-iii Line #: TOC Code: E
Original Comment #
Comment: Attachment H.V should read "Background Contributions to Risk"
Response:
Action:

287) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-vi Line #: TOC Code: E
Original Comment #
Comment: Figure H.3-4 should be titled "Initial Extent of Soil Excavation in the Adopted Site-Wide Remedy"
Response:
Action:

288) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-vi Line #: TOC Code: E
Original Comment #
Comment: Figure H.3-6 should be titled "Categories of Residual Source Terms and Linkages to Fate and Transport Models"
Response:
Action:

289) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-vi Line #: TOC Code: E
Original Comment #
Comment: Figure H.3-7 should be titled "Arsenic Concentration Contours, Movement over 1000 Years Following Remedial Actions"
Response:
Action:

290) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-vi Line #: TOC Code: E

Original Comment #
Comment: Figure H.3-8 should be titled "Manganese Concentration Contours, Movement Over 1000 Years Following Remedial Actions"
Response:
Action:

291) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-vi Line #: TOC Code: E
Original Comment #
Comment: Figure H.3-9 should be titled "Ra-226 Concentration Contours, Movement Over 1000 Years Following Remedial Actions"
Response:
Action:

292) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-vii Line #: TOC Code: E
Original Comment #
Comment: Figure H.4-1 should read "Conceptual Exposure Model, Adopted Site-Wide Remedy"
Response:
Action:

293) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.4.2 Pg. #: H-4-10 Line #: eq. H.4-1 Code: C
Original Comment #
Comment: Exposure frequency and exposure duration are usually two separate terms.
Response:
Action:

294) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.4.2 Pg. #: H-4-11 Line #: eq.H.4-2 Code: C
Original Comment #
Comment: The units for ET, h/d, do not cancel out in the equation as written to provide a CDI in pCi.
Response:
Action:

295) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: Line #: Tables H.4-3 - H.4-13 Code: C
Original Comment #
Comment: Many of the RME totals have possible errors due to rounding, check to see if the original numbers produce the number listed as a total.

Response:
Action:

296) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.I Pg. #: H.I-1 Line #: TOC Code: E
Original Comment #
Comment: The section heading does not correspond to section heading on following page.
Response:
Action:

297) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.III Pg. #: H.III-i Line #: TOC Code: E
Original Comment #
Comment: Section H.III.2 begins on page H.III-15 in text. The rest of headings for section (H.III.3 and following) are missing from the Table of Contents.
Response:
Action:

298) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.III Pg. #: H.III-ii Line #: List of Tables Code: E
Original Comment #
Comment: Table number H.III-5 reads "Contaminant Concentrations...." here but table header is "COC Concentrations...." on page H.III-11.
Response:
Action:

299) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.III Pg. #: H.III-ii Line #: List of Tables Code: E
Original Comment #
Comment: Table number H.III-6 contains the phrase "..., Current Land Use" which is missing in table header on page H.III-12.
Response:
Action:

300) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.III Pg. #: H.III-ii Line #: List of Tables Code: E
Original Comment #
Comment: Table number H.III-7 contains the phrase "..., Future Land Use" which is missing in table header on page H.III-13.
Response:

Ohio EPA OU5 FS/PP
January 31, 1995

Action:

301) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.III Pg. #: H.III-ii Line #: List of Tables Code: E
Original Comment #
Comment: Table number H.III-10 title is not the same as that on page H.III-27.
Response:
Action:

302) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.III.1.2 Pg. #: H.III-3 Line #: 35 Code: E
Original Comment #
Comment: Concentrations of contaminants in livestock water do not appear to be given in any of the tables in this section (Great Miami River?).
Response:
Action:

303) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.III.1.4 Pg. #: H.III-5 Line #: 25 Code: C
Original Comment #
Comment: The text says that Table H.III-6 presents the summary of modeling results for contaminant concentrations in vegetables, meat, dairy, and fish products. However, there is no column for modeled concentrations in fish in the table on page H.III-12.
Response:
Action:

304) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.III-6 Pg. #: H.III-12 Line #: Code: C
Original Comment #
Comment: Table is missing column for fish products.
Response:
Action:

305) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.IV Pg. #: H.IV-ii Line #: List of Tables Code: E
Original Comment #
Comment: The rest of tables H.IV-2 through 120 are not listed here.
Response:
Action:

Ohio EPA OU5 FS/PP
January 31, 1995

306) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.IV Pg. #: Line #: Code: E
Original Comment #
Comment: In many of the tables, EF = fraction of year spent exposed not exposured.
Response:
Action:

307) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.IV-10 Pg. #: Line #: Code: C
Original Comment #
Comment: EF = fraction of year spent "exposed" not "exposured." Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

308) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.IV-89 Pg. #: Line #: Code: C
Original Comment #
Comment: EF = fraction of year spent exposed not exposured. Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

309) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.IV-118 Pg. #: Line #: Code: M
Original Comment #
Comment: Use of this equation and values do not result in the CDIs given at the bottom of the page for fish ingestion. The ILCR is increased by a factor of 100.
Response:
Action:

310) Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: H.V Pg. #: H.V-1 Line #: 24 Code: E
Original Comment #
Comment: The table referred to should be H.V-2 not H.V-1.
Response:
Action:

311) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.V Pg. #: Line #: Code: C
Original Comment #
Comment: Tables H.V.1-1 through H.V.1-120 use the term "TLCR" everywhere instead of "ILCR" as used in the rest of the FS/CRARE. This should be changed to be consistent.
Response:
Action:

312) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.1-1 Pg. #: Line #: Code: E
Original Comment #
Comment: "Undeveloped" should be "Undeveloped Park User"
Response:
Action:

313) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.1-10 Pg. #: Line #: Code: C
Original Comment #
Comment: EF = fraction of year spent exposed not exposured. Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

314) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Tables H.V.1-25 and others Page #: Line #: Code: E
Original Comment #
Comment: EF = fraction of year spent exposed not exposured.
Response:
Action:

315) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.1-89 Pg. #: Line #: Table Code: C
Original Comment #
Comment: EF = fraction of year spent exposed not exposured. Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

316) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.1-98 Pg. #: Line #: Table Code: C
Original Comment #
Comment: EF = fraction of year spent exposed not exposured. Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

317) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.1-118 Pg.#: Line #: Code: M
Original Comment #
Comment: Use of this equation and values do not result in the CDIs given at the bottom of the page for fish ingestion. The ILCR is increased by a factor of 100.
Response:
Action:

318) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.2-1 Pg.#: Line #: Code: E
Original Comment #
Comment: Scientific notation used in this table ("E-01") is different from that used in all other tables ("x 10^{-1}"). "Undeveloped" should be "Undeveloped Park User"
Response:
Action:

319) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.2-10 Pg.#: Line #: Code: C
Original Comment #
Comment: EF = fraction of year spent exposed not exposured. Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

320) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.2-89 Pg.#: Line #: Code: C
Original Comment #
Comment: EF = fraction of year spent exposed not exposured. Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

321) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.2-98 Pg.#: Line #: Code: E
Original Comment #
Comment: EF = fraction of year spent exposed not exposured. Calculations using this equation and values do not result in CDIs given, but the same CDI is obtained if only the first half of the equation (outdoor exposure) is used and the second half (indoor exposure) is disregarded, as would be correct for this receptor and exposure scenario. So, the term "+[CRxEFxEDxET$_i$x1-SH$_i$)] should be deleted from the exposure equation at the top of the page.
Response:
Action:

322) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table H.V.2-118 Pg.#: Line #: Code: M
Original Comment #
Comment: Use of this equation and values do not result in the CDIs given at the bottom of the page for

fish ingestion. The ILCR is increased by a factor of 100.
Response:
Action:

323) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI Pg. #: H.VI-i Line #: TOC Code: E
Original Comment #
Comment: Section H.VI.5.3, "Qualitative Discussion of Related Uncertainties in the Risk Assessment" is completely missing from the text.
Response:
Action:

324) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI.I Pg. #: H-VI-2 Line #: 14,15 Code: E
Original Comment #
Comment: Add "th" after 70, 90, 95.
Response:
Action:

325) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI.3 Pg. #: H-VI-8 Line #: 26, 35 Code: E
Original Comment #
Comment: AHIC 1994 is not given in references.
Response:
Action:

326) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI.3 Pg. #: H-VI-9 Line #: 26 Code: E
Original Comment #
Comment: Finley et al. 1994 is not given in references.
Response:
Action:

327) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI.3 Pg.#: H-VI-10 Line #: 2 Code: E
Original Comment #
Comment: "The chemical uptake of **[word missing]** via dermal..."
Response:
Action:

328) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VII Pg. #: H.VII-i Line #: Code: E
Original Comment #
Comment: Table of Contents is missing. There are no references provided at the end of the section for the literature cited in the text.
Response:
Action:

329) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VII Pg. #: H.VII-i Line #: List of Tables Code: E
Original Comment #
Comment: Table number H.VII-1 is actually on page H-VII-3, not H-VII-4. Rest of page numbers in list are also off by 1 compared with text.
Response:
Action:

330) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VII Pg. #: H.VII-5 Line #: Table Code: E
Original Comment #
Comment: Exponents for values in last column are unclear in copy reviewed.
Response:
Action:

331) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: I.3.6.4 Pg. #: Line #: Code: C
Original Comment #:
Comment: Estimation of the volumes of additional traffic through the local community appears unrealistically low. Details of the traffic estimation process are lacking and should be included to permit review. It is not clear whether a "truck trip" includes arrival or departure of the unloaded truck. There is also no mention of the traffic generated by the daily commuting practices of the remediation work crews, support personnel, supervisory personnel, and heavy equipment transportation to and from the site. Given that transportation is already cited as posing "possibly the greatest environmental impact" (page I-3-10 line 30) to the surrounding community, more detail regarding this evaluation should be included.
Response:
Action:

332) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: J.4.0 Pg. #: J-4-2 Line #: 13 - 15 Code: C
Original Comment #:

Comment: The text says:"Mitigation for wetland impacts will be determined using the 404 (b) (1) guidelines of the Clean water Act, in consultation with the COE, U.S. Environmental Protection Agency, and Ohio Environmental Protection Agency." The text should give some indication of the criteria for mitigation selection that would be required by these agencies. The text should also develop one or more reasonable mitigation scenarios and show how these requirements would be fulfilled.
Response:
Action:

333) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: K.1.1 Pg. #: K-1-2 Line #: Code: M
Original Comment #:
Comment: Change "Estimatess" to "Estimates".
Response:
Action:

334) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: K 1.1 Pg. #: 1-6 Line #: Code: C
Original Comment #:
Comment: Were sunk-costs, DOE administration costs, and project costs to date included in the Total Project Costs? If they were included, into what section were they added?
Response:
Action:

335) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: K 1.1 Pg. #: 1.9 Line #: Code: C
Original Comment #:
Comment: The off-site Disposal volume presented is different from the value presented in Table K1.1.
Response:
Action:

336) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: K 3-1 Pg. #: 3-1 Line #: Code: C
Original Comment #:
Comment: Cost summaries were provided for 1.5 M CY to 2.0 M CY of excavated soil. These values are not in the range for most of the remedial alternatives. Were costs for other excavation values calculated or extrapolated?
Response:
Action:

337) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: K 3-0 Pg. #: 3-1 Line #: Code: C
Original Comment #:
Comment: Contractor turnover every two years will result in over-estimates of costs. Even though the contract will be rebid every two years, the same contractor may successfully maintain the contract.
Response:
Action:

338) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: K 3.1 Pg. #: 3-2 Line #: Code: C
Original Comment #:
Comment: If the all work is being performed by a subcontractor, and this subcontractor will demobilize his equipment after two years, why is heavy equipment being purchased and replaced every 22 years?
Response:
Action:

339) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: K 3-3 Pg. #: 3-12 Line #: Code: C
Original Comment #:
Comment: Did the cost estimates include shipments by truck in containers larger than 2 CY?
Response:
Action:

340) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: L 1.1 Pg. #: L 1-8 Line #: 19-20 Code: C
Original Comment #:
Comment: Sediments should be sampled periodically during excavation, especially at the Site boundary. Mitigative procedures should be put in place if contaminated sediments are found to be migrating.
Response:
Action:

341) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: L 1.1 Pg. #: L 1-10 Line #: 22-23 Code: C
Original Comment #:
Comment: Soil sampling should continue to the water table or until no contamination is detected.
Response:
Action:

342) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: L 1.2 Pg. #: L 1-13 Line #: 22-23 Code: C
Original Comment #:
Comment: Have specific statistical techniques been proposed?
Response:
Action:

343) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: L 1.2 Pg. #: L 1-18 Line #: 17 Code: E
Original Comment #:
Comment: Rearrange words.
Response:
Action:

344) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix L Pg #: L-6-3 Line #: 12 Code: c
Original Comment #:
Comment: It is Ohio EPA's expectation that DOE will aggressively investigate the incorporation of the attenuating materials referred to here.
Response:
Action:

345) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix L-6 Pg #: 6 Line #: 23 Code: c
Original Comment #:
Comment: Please be more specific in defining the "propable maximum flood" referred to here. It is Ohio EPA's expectation that the channel be design to accommodate flows from a 500 year storm event.
Response:
Action:

346) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: L-6 Pg #: 7 Line #: 15 Code: c
Original Comment #:
Comment: It is Ohio EPA's expectation that the use of attenuating materials such as those referred to on page L-6-3 be investigated for being incorporated into the construction of this secondary liner.
Response:
Action:

347) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix L Pg #: 10-4 Line #: 17 Code: c
Original Comment #:
Comment: This section does not mention that perched groundwater that is contaminated with listed

RCRA constituents will be pre-treated before being transferred to the AWWT. See Section 4.1.4.1.
Response:
Action:

348) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: M 5.5 Pg. #: 5-22 Line #: 9 Code: C
Original Comment #:
Comment: Please clarify "the questions remaining about the mobility of uranium in the processed soils."
Response:
Action:

349) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: M 5-5 Pg. #: 5-22 Line #: 30-31 Code: C
Original Comment #:
Comment: Please provide the details of the situations where soil washing may be considered a viable option.
Response:
Action:

350) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: M 5-5 Pg. #: 5-26 Line #: 8-13 Code: C
Original Comment #:
Comment: Please provide details of the potential applications for solidification at the site.
Response:
Action:

351) Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: M 5-7 Pg. #: 5-37 Line #: 41-44 Code: C
Original Comment #:
Comment: Although RCRA land disposal permits may not be required for consolidation, the regulatory barriers should include the 1000 year criteria for the integrity of the consolidation cover as stated in Section M 3.3.1.
Response:
Action:

COMMENTS ON THE OU5 PROPOSED PLAN

1) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: PP Pg #: 1 Line #: box Code: c
Original Comment #:

Comment: The last three items in this box are not included as the table indicates them to be. Specifically, 1) there is no postage-paid comment form on the back page, 2) there is no section on "Workshops," as is listed in the the table, and 3) there is no section on public meetings, as is listed in the table. Please adjust the text to correctly reflect the contents of the Proposed Plan.

Response:

Action:

2) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: PP Pg #: 2 Line #: margin Code: c
Original Comment #:
Comment: In the definition for Records of Decision, add a sentance to indicate that the ROD is a legally binding document.

Response:

Action:

3) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: PP Pg #: 5 Line #: Code: c
Original Comment #:
Comment: The layout and graphics on this and subsequent pages should be re-evaluated. First, do not allow only one or two lines of text to appear on a page that is mainly graphics. The text can often be overlooked in this situation. Keep pages or half-pages dedicated to graphics and consolidate areas of text for readability. Second, the graphics in Figure 2, and to a lesser extent in subsequent pages, is very difficult to read. The words are blurry, too small and didn't copy well.

Response:

Action:

4) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: PP Pg #: 7 Line #: Code: e
Original Comment #:
Comment: Remove the brackets around ***[parts per million]*** so that text reads, "(greater than 8000 ***parts per million [ppm]***).

In the margin definition, remove the "a" from waater so that text reads, "(usually soil or water)."

Ohio EPA OU5 FS/PP
January 31, 1995

Response:

Action:

Ohio EPA Editorial Comments
on the OU5 FS/PP

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #:2.4 Pg.#: 2-19 Line #: 30 Code: E
Original Comment #
Comment: "...a target risk..." should be "...target risks"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #:Appendix B Pg.#: TOC Line #: last Code: E
Original Comment #:
Comment: Section B.5.2 begins on page B-5-1 not B-5-2 as listed.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #:Appendix B Pg.#: v Line #: SARA Code: E
Original Comment #:
Comment: "Superfunds" should be "Superfund"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #:Appendix B Pg.#: v Line #: SOWC Code: E
Original Comment #:
Comment: "Southwester" should be "Southwestern"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Appendix B Pg.#: v Line #: TSCA Code: E
Original Comment #:
Comment: "...Substance..." should be "...Substances..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: B.1.0 Pg.#: B-1-2 Line #: 12 Code: E
Original Comment #:
Comment: "maximum contaminant limits (MCLs)...", MCL in the acronym list stands for "maximum contaminant level."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table B.2 Pg.#: B.2-15 Line#: 1st bullet Code: E
Original Comment #:
Comment: There are typographical errors in "...downgradient direction form the facility..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table ARAR B-3 Pg.#: B.3-18 Line #: 1st box Code: E
Original Comment #:
Comment: "...particulates if micrograms..." should be "...is..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table ARAR B-3 Pg.#: B.3-18 Line#: 1st box Code: E
Original Comment #:
Comment: "...height above gerund..." should be "...ground..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table B.4 Pg.#: B.4-2 Line#: last box Code: E
Original Comment #:
Comment: NTS is not in the list of acronyms.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.1 Pg.#: C-2-4 Line #: 7 Code: E
Original Comment #
Comment: Change "...of unit concentration of one..." to "...a unit concentration..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.2 Pg.#: C-2-5 Line #: 12 Code: E
Original Comment #
Comment: "...either the RPG..." should be "...either the PRG..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.2.2 Pg.#: C-2-6 Line #: 1 &3 Code: E
Original Comment #
Comment: a)"...UR..." should be "...Urs..."
b) "(U)-38" should be "U-238".

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-6 Line #: 35 Code: E
Original Comment #:
Comment: The units for concentration of radionuclides in milk should be "pCi/L" not "pCi/mL"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.1.3 Pg. #: C-3-9 Line #: 34 Code: E
Original Comment #:
Comment: There is a "[" in the equation that is not necessary.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.1 Pg. #: C-3-13 Line #: 8 Code: E
Original Comment #:
Comment: Delete commas between "value" and "9.8" and "10^{-7}" and "represents"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.2 Pg. #: C-3-13 Line #: 24 Code: E

Original Comment #:
Comment: "...cm inches..." should be "....cm...." only

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.3 Pg. #: C-3-17 Line #: 21 Code: E
Original Comment #:
Comment: Delete "exp" from end of line.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.3.2.4 Pg. #: C-3-19 Line #: 18 Code: E
Original Comment #:
Comment: Delete "for"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Table C.3-2 Pg. #: C-3-45 Line #: Footnote b Code: E
Original Comment #:
Comment: "implicityly" should be "implicitly"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-11 Line #: 24 Code: E
Original Comment #:
Comment: "...glomera..." should be "...glomeruli..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-11 Line #: 25 Code: E
Original Comment #:
Comment: "Casarette et al." should be "Casarett and Doull"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-11 Line #: 28 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-11 Line #: 36 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"
Response:
Action:

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-12 Line #: 3 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-12 Line #: 6 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-12 Line #: 11 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-12 Line #: 13 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.2 Pg. #: C-4-12 Line #: 25 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.3 Pg. #: C-4-12 Line #: 37 Code: E
Original Comment #:
Comment: The "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: C.4.5.3 Pg. #: C-4-13 Line #: 15-24 Code: E
Original Comment #:
Comment: The "-" or "*" in "kg*day" should be a "/"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.7.2.4 Pg.#: F-7-7 Line #: 40 Code: E
Original Comment #:
Comment: Suggest replacing "electronically" to "digitally" combined.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: F.2.3.2 Pg. #: F-2-8 Line #: 25 Code: E
Original Comment #:
Comment: Change "mat" to "may".

Commenting Organization: Ohio EPA Commentor:GeoTrans
Section #: Appendix G, TOC Pg. #: G-ii Line #: Code: E
Original Comment #
Comment: G.7.0 References are missing from the Table of Contents.

Commenting Organization: Ohio EPA Commentor:GeoTrans
Section #: G.2.2.2.5 Pg. #: G-2-14 Line #: 8-10 Code: E
Original Comment #
Comment: Remove the word "is" on line 10. Change "its" to "an" and "exceeds" to "Exceeding."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-i Line #: TOC Code: E
Original Comment #
Comment: H.1.3 through H.1.6, these sections should be deleted as they do not occur in the text.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H Pg. #: H-i Line #: TOC Code: E
Original Comment #
Comment: H.3.0 Should read "CRARE Fate and Transport Modeling."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg.#: H-vii Line #: Acronyms Code: E
Original Comment #
Comment: RFC should be RfC.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg. #: H-vii Line #: Acronyms Code: E
Original Comment #
Comment: Rfd should be RfD.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.2.1 Pg. #: H-2-2 Line #: cell 4 line 5 Code: E
Original Comment #
Comment: Change "WAS" to "WAC"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.4.1.2.3 Pg. #: H-4-5 Line #: 2 Code: E
Original Comment #
Comment: Missing verb in sentence

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.5.3 Pg. #: H-5-3 Line #: 13 Code: E
Original Comment #
Comment: "be will" change to "will be"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.5.7.5 Pg. #: H-5-8 Line #: 33 Code: E
Original Comment #
Comment: "exits" should be "exists"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.5.9 Pg. #: H-5-13 Line #: 15 Code: E
Original Comment #
Comment: "slop" should be "slope"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.6.2.1 Pg. #: H-6-4 Line #: 24 Code: E
Original Comment #
Comment: "nature" should be "natural"

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H-VI-I Pg. #: H-VI-2 Line #: 30 Code: E
Original Comment #
Comment: "This sections..." should be "This section..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI.2 Pg. #: H-VI-3 Line #: 7 Code: E
Original Comment #
Comment: Delete "," after distributions.

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI.3 Pg. #: H-VI-7 Line #: 5 Code: E
Original Comment #
Comment: Delete "is" in "...time is for all..."

Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: H.VI.4.2 Pg. #: H.VI-13 Line #: 36 Code: E
Original Comment #
Comment: "...monte carlo..." should be "...Monte Carlo..."